

Curriculum Vitae

Personalialia

Name: Mihai Adrian Tiberiu Sanduleanu
Titles: PhD / MSc / M.E.E.
IEEE: Senior Member
Nationality: The Netherlands
Birth place: Vatra-Dornei/ Romania
Birth date: 29 January, 1966
Languages: English, Romanian (native), Dutch, French,
German (beginner), Italian
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Education

Twente University of Technology Enschede / The Netherlands (1994-1998)

Study direction: *Analog electronics and IC Design*
Diploma: *PhD*
PhD Thesis: *"Power, noise and accuracy aspects in CMOS mixed signal design"*
Promotors: Prof. Dr. Ir. Hans Wallinga and Prof. Ir. Ed van Tuijl
Advisor: Dr. Ir. R.F. Wassenaar
Relevant courses: Analog Filters: Continuous time and Switched Capacitors, Analog IC Design, Low-power, Teaching in Higher Education, Dutch language.
Industrial project: *"Low-Power, Low-Voltage Chopped transconductance Amplifier for Noise and Offset Reduction"*, Philips Research Eindhoven, April- July, 1996.
Advisor: Dr. Ir. Bram Nauta

Eindhoven University of Technology Eindhoven/The Netherlands (Jan. 1993-May 1994)

Study Direction: *Analog Electronics*
Diploma: *Master of Electronic Engineering (MEE) (Cum Laudae)*
MEE Thesis: *"A high frequency video preamplifier with nonlinear signal processing for application in a monitor system"* / Philips Research Eindhoven
Advisor: Dr. Ir. Evert Seevinck
Industrial project: *"Output Processor. A Switched-Current Spectrum Analyzer. An Estimation of the TV Picture-Tube Current Spectrum"* / Philips Semiconductors Eindhoven, (PCALE), May-August 1994;
Relevant courses: A/D and D/A converters, Phase Locked Loops, Active Filters, Passive Filters, Digital Signal Processing, High frequency electronics,

Digital communication techniques, Analog Electronics, EMC.

Technical University “Gh. Asachi” Iasi/Romania(1985-1990)

Study Direction: *Electronics and Telecommunications / Radioelectronics*

Diploma: *MSc (Cum Laudae) / Average mark academic years: 9.62/10*

Diploma examination: **10/10**

MSc Thesis: *“Analysis and synthesis of some translinear circuits: A high performance euclidean distance computing circuit. A broadband precision rectifier”*

Relevant courses: Analog IC Design, Digital IC Design, Microwaves, Radioreception, Radioemission, Antenae, Electroacustics, Television Systems, Modern Communication Techniques, Electromagnetic Compatibility, CAD.

High School of Mathematics and Physics “Stefan cel Mare” Suceava/Romania (1980-1984)

Study Direction: *Mathematics and Physics*

Diploma: *School Leaving Diploma / Diploma examination: 8.56/10*

Work experience

- **Masdar Institute (Part of Khalifa University)** (Jan. 2014-onward) *Associate Professor of Microelectronics, Analog, Mixed-Signal and RF IC design Research.*
Research: on mm-Waves and THz integrated circuits and microsystems, Ultra low-power radios, High-Speed Analog/Digital Conversion, Broadband communication circuits for fiber optics/nanophotonics/serial I/O, Wireless Communication Circuits, Phase-locked loops (PLL), Data and Clock Recovery, Self-healing Circuits. Research on circuit design in CMOS, CMOS SOI, SiGe and GaN technologies. Special interest in radiation hardness and extreme conditions IC design for oil/gas and space applications. Research on medical devices for Body Area Network, Imaging and Lab-on-chip. Research on Ultra Low-Power IoT Transceivers, Broadband Transceivers for Data Centers. Research on GaN High Efficiency Transmitters, Hybrid Energy Harvesters, Hybrid Invisible Tags.
Director/PI: of “Nanophotonics and Broadband, THz Circuits Lab”. Director and PI of “5GRF Center of Excellence”. PI of Electronics part of the “Nanophotonics Center of Excellence”. PI of the “Smart Sensors for Catalytic Bed Refinery” Research Project with Takreer, Abu Dhabi. PI of the “GaN High Efficiency Transmitters” funded by Desphande MIT Center. PI of the ACE4S/SRC Research project “Synchronization Circuits for Body Area Networks”. PI of the ACE4S/SRC Research project “mm-Wave Transceiver for Wireless Sensor Networks”.

Research Projects:

1. Sub mm-Waves 160GHz, Vital Signs Monitoring IC
2. 2D-Graphene Center
3. Ultra Low-Power mm and sub mm-Wave Transceivers for Near-Field IoT (SRC)
4. 400Gb/S PAM4/Duobinary CMOS-SOI Transceivers for Nanophotonic Links (Global Foundries /SRC);
5. All Digital Clock and Data Recovery for on-chip communication and IoT (SRC);
6. 120GHz, Near-Field Imaging Technique for Skin Cancer Detection;
7. Non-invasive glucometer based on Near Field Imaging
8. Invisible, Smart, Hybrid Tag;
9. GaN High Efficiency Transmitters Based on Digital Exponential Modulation for 5G Basestations (MIT/Desphande Center);
10. GaN Technology cooperation with Fujitsu Electronics, Japan.

11. CMOS High Efficiency Transmitters Based on Digital Exponential Modulation for 5G Mobile Terminals;
12. Phased Array Transceivers for 5G Mobile Terminals (Global Foundries/SRC);
13. Ultra Low-Power 10bit SAR ADC with Offset Cancellation Comparator for Biopotential Reading Channel;
14. Body Area Communication Transceivers;
15. Hybrid Energy Harvester for IoT WSN;
16. Ultra Low-Power DC-DC Converter for IoT WSN;
17. Graphene Based Tunable Antennas and Filters for 3G/4G/5G;

Graduated: 20 MSc students (17 UAE, 1 Taiwan, 1 Jordan, 1 India) and 10 PhD student (Uganda, Nigeria, Egypt, Romania, Ethiopia, Moldavia, Serbia, Pakistan, India, China). My Research group consists of 2 PhD students, 4MSc students, 1 Research engineer, 1 Research Scientist and 1 Post Doc.

Teaching: MSc/PhD level courses: “High Speed Communication Circuits” (RF, Fiber Optics, Backplane interconnects), “Analog and Mixed-Signal Design Techniques” (A/D and D/A Converters), “Analysis and Design of Analog Integrated Circuits”.

Total research projects funding of 6.1 million US dollars.

- **IBM T.J. Watson Research Center** (Oct. 2008-Dec.2013): *Research Staff Member* in the Communication/Computation Department and Member of Semiconductor Research Center (SRC). IBM liaison for the SRC THz program working with different US universities. I was the recipient of O-1 visa program for three years (nonimmigrant visa is for the individual who possesses extraordinary ability in the sciences, or who has a demonstrated record of extraordinary achievement and has been recognized nationally or internationally for those achievements). At IBM I conducted research in the following research areas:

Quantum computing:

As a contributor to the IBM Quantum Computing research program I designed cryogenic LNAs (@ 4K) in the IBM 8HP SiGe process for qubit state sensing.

mm-Wave, sub-mm-Wave and THz electronics:

Concept, design and measurements of Millimeter-Wave circuits for the MARS(DARPA) program (60GHz wireless transceiver with self-healing capabilities). I contributed to the research proposal and secured 5M \$ in funding for IBM. I conceived and designed the receiver chain, PLL and parts of the transmitter chain of a 32-nm CMOS SOI, 60GHz Transceiver with healing. Supervising students from University of Toronto. References [52], [53], [54], [55].

Concept, design and measurements of a 94GHz Phase-Array Transceiver for Imaging, Communication and RADAR for the SBPAT (DARPA) program. I contributed to the research proposal and secured 2M \$ in funding for IBM. References [50], [51], [52].

Concept, design and measurements of a 60GHz Phase-Array Transceiver for Communication (cooperation with Hittite Microwave). I contributed to the research proposal and secured 15M \$ in funding for IBM.

Member of Mediatek/IBM 60GHz alliance, involved in the design of different RF blocks. I contributed to the research proposal and secured 5M \$ in funding for IBM. I coached Mediatek designers during their stay at IBM.

Together with Aydin Babakhani I was the initiator of a near-field millimeter-Wave dielectric imaging technique with sub-wavelength spatial resolution. Reference [48].

Involved in the T-CAD project for the definition of 9HP/9XP (SiGe BiCMOS) technology.

High-speed ADCs for serial I/O and wireless communications:

PI of the MARS/HEALICS (DARPA) ADC section. I contributed to the research proposal and secured 1M \$ in funding for IBM.

Responsible for architecture concept, specifications, design and measurements of high speed ADC's for communications.

I designed different Voltage-Domain ADCs and Time-Domain ADCs (4.5-5bit ENOB) in 45nm CMOS SOI and 32nm CMOS SOI from IBM. References [47], [49].

Member of Mediatek/IBM 60GHz alliance, involved in a 7-bit ADC (65-nm CMOS). I contributed to the research proposal and secured 2M \$ in funding for IBM. Coaching students from Carnegie Mellon University (CMU).

Concept, design and measurements of ADC based I/O (digital DFE and FFE) for 25G+ standards.

Indirect Performance Sensing for self-healing:

Involved in On-Chip Analog/RF Self-Healing via Bayesian Model Fusion. I designed RF circuits with self-healing capabilities (LNA, Mixers, ADC). Coaching students from Carnegie Mellon University (CMU), NSF Award # 1316363

SHF: Small: Bayesian Model Fusion: A Statistical Framework for Efficient Validation and Tuning of Complex Analog and Mixed Signal Circuits

References [53], [54], [55].

Optical communication and nanophotonics:

Architecture, concept and design work for Photonically Optimized Embedded Microprocessors (POEM) for DARPA. I contributed to the research proposal and secured 2M \$ in funding for IBM.

The design work relates to a 25Gb/s burst-mode CDR for a 8 x 8 nano-photonics switch.

DNA sequencing and medical applications:

Cooperation with Roche for designing sensors and analog/mixed-signal circuits related to DNA sequencing. Consultancy for IC Design and nanopore sensor.

Cooperation with Johnson & Johnson on extremely low footprint hybrid identification tags (75 μ m x 75 μ m x 75 μ m).

Wireless Data Centers:

Architecture, concept and design work for a wireless switch using mm-Wave technologies. Participated to the Department of Defense (DOE) write-up proposal.

Graphene IC design and characterization:

I designed frequency doublers and mixers in the IBM graphene process and provided some test structures for technology evaluation.

GaN technology for SoC (analog mixed-signal, digital and RF applications)

I participated in the DARPA write-up proposals for a GaN technology applied for SoC's.

- **Inter-University Microelectronic Centrum (IMEC) Leuven** (Dec.2007-June 2008): *Senior Research Scientist* in the Wireless Group of Nomadic Embedded Systems (NES); Responsible for architecture concept, specifications, design and measurements of RF CMOS circuits in the Millimeter-Wave Communications Program (60GHz) and Millimeter-Wave Imaging. PhD and MSc students coaching. University liaison (Katholieke Universiteit Leuven, TU Delft and TU Eindhoven);
- **Philips Research Eindhoven** (May 2000-Dec.2007): *Senior/Principal Research Scientist* in Integrated Transceivers Department (group Neil Bird) / IC Design Sector; Responsible for architecture, specifications, design and measurements of RF circuits in CMOS and SiGe BiCMOS, PhD and MSc students coaching, University liaison (TU Delft and TU Eindhoven), European (e-CUBES) and National projects (Freeband/Wicomm, Broadband Radio@Hand);

IC Design for Optical Networking: 12Gb/s Crossbar switches (static and dynamic), 10GE Data and Clock Recovery and Limiters, 10Gb/s Laser Drivers and Transimpedance amplifiers. Architecture, specification, circuit design responsibilities. Involved in the 10Gb/s-40Gb/s projects. I was also involved in the definition of

Qubic4G/4X, the first generation SiGe technology in Philips. References [12-16] and [20];

RF tags on flexible substrates for chip-on-paper: Architecture and circuit design of sub-harmonic tags on Silicon-On-Anything (Spirit) at 2.4GHz and 1.2GHz. My research resulted in the world's first flexible coil on-chip tag operating at UHF. It was presented at "Smart Labels Conference 2004", Nice, France. Contribution to Philips Corporate Research Exhibition (CRE) 2005;

WiMAX/WiBro transceivers: Architecture, concepts and circuit design for WINONA transceivers in cooperation with Philips Semiconductors (NXP Semiconductors);

Television tuner for TV on mobile: Up-conversion tuner with BAW resonators including the second IF amplification chain. Architecture, specification, circuit design;

Ultra Low-power radio in CMOS090: The design of RF front-ends for ULP radio in 866/433MHz band. Architecture, specification, circuit design;

WLAN Transmitter/ Power amplifier: The design of a 27dBm power amplifier in SiGe with on-chip BALUN. Architecture, specification, circuit design; Contribution to Philips Corporate Research Exhibition (CRE) 2006. Reference [36];

High efficiency power amplifiers for multi-mode, multistandard applications: The design of class-D transmitters based on Pulse-Width-Modulation (PWM) and $\Sigma-\Delta$ techniques. Concept, analysis, architecture and circuit design [36];

17 GHz Ultra Low-power radio: The design of a 17GHz Transceiver for 1nJ/bit in SiGe BiCMOS and CMOS. Involved in the concept, architecture and design of all building blocks. Contribution to European Project e-CUBES(<http://www.ecubes.org>).

References [28], [40], [42] and [5] (Invited papers);

60GHz WPAN CMOS Transceiver: The design of a 60GHz Transceiver in CMOS for Gb/s wireless links. Involved in the concept, architecture and design of all building blocks. Contribution to national research programs *Freeband* and *Wicomm* with TU Delft, TU Twente, TU Eindhoven, TNO. References [17], [18], [22], [24], [26], [29], [30], [33], [37], [38], [39] and [4] (Invited papers);

Beamsteering and beamforming techniques for multi-Gb/s radio links: Architecture and concept of a Tx/Rx with beamsteering/beamforming capabilities. Reference [33];

Multi-mode, multi-band transceivers: The design of an integrated transceiver for multi-mode, multi-band operation (850MHz-6GHz) in CMOS-090 and CMOS-065. Concept, analysis, architecture and circuit design. References [27], [31], [32], [34], [35], [41] and [11] (Invited papers);

XTAL-less Ultra Low-Power Radios: Concept, analysis, architecture and circuit design of ULP radios without external crystals. The concept relies on acquisition of clock from the incoming RF signal or an integrated resonator on-chip;

Millimeter and sub-millimeter wave radiometers for in-vivo imaging, extreme-wideband communications and security: Concept and analysis of radiometers including antenna-arrays/beamforming/beamsteering for in-vivo imaging;

THz electronics: Concept and analysis of broad-spectrum techniques for spectroscopy and detection of substances;

- **Eindhoven University of Technology** (Jan.2006-Jan.2008): *Part time Professor* in the Microelectronics group. Active in coaching PhD and MSc students working on 60GHz Circuits in CMOS;
- **Philips Semiconductors Nijmegen** (Nov.1998-May 2000): *Senior RF IC Designer of Fiber optic Interface IC's*; Responsible for architecture, specifications, design and measurements of RF circuits in CMOS and SiGe BiCMOS: Transimpedance amplifier (TZA3013), Any-Rate Data and Clock Recovery (TZA3019), Limiter (TZA3018), Clock conversion (PLL). References [12], [13].

- **Twente University of Technology** (1994-1998): *PhD student (AIO)* ; Research on Analog IC Design in CMOS, Low-power design, students coaching, teaching “Continuous-time and sampled-data filters”, References [1-9];
- **Technical University “Gh. Asachi”** Iasi / Romania (1991-1992): *Teaching Assistant in Analog IC Design and CAD*; Analog /RF IC Design and CAD methods, teaching “*Analog Integrated Circuit Design*” References [10], [11];
- **Tehnoton** Iasi / Romania (1990-1991): *RF Design Engineer / Professional radiocommunications*; RF Design and integration of RF functionality;
- **I.A.E.M.I. Bucharest**, Romania (Aug.1990-Dec.1990): *RF Design Engineer*;

Research Funding and Grants

- Co-PI (Khalifa University) 2D-Graphene Center, Funded \$4 million
- PI (Masdar Institute) of “Smart Catalysts for static and moving bed reactors”, / Takreer Center, Funded \$ 2.6 million.
- PI (Masdar Institute) of “5GRF Excellence Center”, /SRC-GF, Funded 0.5 million USD.
- PI (Masdar Institute) of “High Efficiency GaN Transmitters”, /MI/MIT Ignition Grant Sept.2014-May 2017/, Funded \$ 250,000.00.
- PI of “Synchronization for Body Area Network (BAN)”, ACE4S (SRC) /Sept.2014-May 2017/, Funded \$ 200,000.00.
- Co-PI of “Monolithically-Integrated, Electronic-Photonic Integrated Circuits for Energy-Efficient Interconnects (EPIC)”, Funded \$ 510932.
- PI (Masdar Institute) of “RF-5G ”, / SRC/Global Foundries, Funded \$ 550000.
- Co-PI (Masdar Institute) of “Nanophotonic Interconnects”, SRC/Global Foundries, Funded \$ 2.1 million.
- PI of the MARS/HEALICS (DARPA) ADC section. I contributed to the research proposal and secured 1M \$ in funding for IBM. Responsible for architecture concept, specifications, design and measurements of high speed ADC’s for communications.
- Architecture, concept and design work for Photonically Optimized Embedded Microprocessors (POEM) for DARPA. I contributed to the research proposal and secured 2M \$ in funding for IBM.
- Member of Mediatek/IBM 60GHz alliance, involved in a 7-bit ADC (65-nm CMOS). I contributed to the research proposal (Co-PI) and secured 2M \$ in funding for IBM.
- PI of the MARS/HEALICS (DARPA) ADC section. I contributed to the research proposal and secured 1M \$ in funding for IBM.
- Concept, design and measurements of Millimeter-Wave circuits for the MARS(DARPA) program (60GHz wireless transceiver with self-healing capabilities). I contributed to the research proposal and secured 5M \$ in funding for IBM.
- e-CUBES: 3D Integrated Micro/Nano Modules for Easily Adapted Applications. Project leader and program coordinator from Philips Research;

Postgraduate Certificates and Diplomas

- Teaching and Learning in Higher Education, University of Twente, May 1995;

- Low-Power, Low-Voltage IC Design, June 1995;
 - Analog Artist Design Series, August 2000;
 - Spectre RF, Sept.2000;
 - Analog Modeling with Verilog A, Sept. 2000;
 - IC Design for Optical Communication Systems, EPFL Lausanne, June 2001;
 - Fundamentals of ADS, April 2001;
 - Linearized Power Amplifier Systems: Theory and Design, Sept.2004;
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Teaching experience

2014-onwards: FDN 432 “Differential Equations and Linear Algebra” (2014), MIC611 “Analysis and Design of Analog Integrated Circuits” (2015, 2016, 2017), MIC612 “High Speed Communication Circuits” (2014, 2015, 2016, 2017), MIC613 “Analog and Mixed-Signal Design Techniques” (2017), SSC 501 “Spacecraft Systems and Design” (2015, 2016, 2017), ECCE411 “Analog IC Design” (2022, 2024, 2025), ECCE312 “Electronic Circuits and Devices” (2023, 2024), ECCE622 “RF and Mixed Signal Design Techniques” (2020-2024)

2008-2013: Supervising PhD students during their IBM internship

2007-2008: Part-time Professor in the Microelectronics Group, Eindhoven University of Technology, Eindhoven, The Netherlands. Coaching MSc and PhD students working on RF IC Design, mm-Waves Circuits and Systems, Low Power Radios

2008: CMOS Integrated Transceivers for 60GHz UWB Communication, Katholieke Universiteit Leuven, Jan.2008, Belgium.

2007: Tutorial on Radio for Wireless Sensor Networks, Summer School, Uppsala University of Technology, Sweden, Sept. 2007.

1998-2008: Supervising Master and PhD students from TU Eindhoven, TU Delft and KU Leuven working on their internship at Philips Research.

1994-1998: Teaching Assistant, teaching courses on "Continuous-time and sampled-data filters", "Analog electronics", University of Twente, Enschede, The Netherlands. Supervising Master students.

1991-1992: Teaching Assistant, teaching courses on "Analog IC Design", "Device Physics" and "Basic Electronics", "CAD" at Technical University “Gh. Asachi”, Iasi, Romania. Supervising MSc students during their Master Thesis.

1991–1992: Laboratory - Basics of Electronics, Electronic Circuit CAD, Technical University “Gh. Asachi”, Iasi, Romania.

Awards

Philips Award for patent “LC Controllable Oscillator, a Quadrature Oscillator and a Communication Arrangement”;

Philips Award for patent “Differential Ring Oscillator Stage”;

Philips Award for patent “Fully Differential Variable-Gain Amplifier and a Multidimensional Amplifier Arrangement”;

Philips Award for patent “Tunable Quadrature Phase-Shifter Using an All-Pass Circuit”;

Philips Award for patent “Tunable Quadrature Phase-Shifter”;

Philips Award for patent “Transmission Lines Arrangement”;

Philips Award for patent “Differential Charge-Pump”;

IBM First Plateau Invention Achievement Award

IBM Second Plateau Invention Achievement Award

IBM Award for patent "Self Calibrated, Broadband, Tunable, Active Oscillator with Unity Gain Cells for Multi-Standard and/or Multiband Channel Selection"

IBM Invention Award for patent "Track and Hold Amplifiers and Digital Calibration for Analog-to-Digital Converters"

IBM Invention Award for patent "Flash Analog to Digital Converter with Method and System for Dynamic Calibration"

Master of Electronic Engineering Diploma "With Distinction"

Participation in International and European/National Projects

- FP7-PEOPLE-IAPP-2008. IMEC liason with Eindhoven University of Technology
 - e-CUBES: 3D Integrated Micro/Nano Modules for Easily Adapted Applications. Project leader and program coordinator from Philips Research;
 - Broadband Radio@hand / BraBantBreedBand (B4) program. Philips Research liason and consultant. PhD Thesis advisor for Anthony Ng'oma (Eindhoven University of Technology) and contributor from Philips Research.
 - WiComm in Freeband: Microelectronics for the Next Generation of Wireless Communications. Program coordinator from Philips Research.
 - SiGi SPOT: 60 GHz radio technology for high-capacity wireless in-home communication networks. Contributor from Philips Research.
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Jury Member for PhD Thesis Examination and PhD Thesis Advisor

- Solomon Serunjogi: "CMOS Transceivers for Nano-Photonic Links in Data-Centers", Masdar Institute, June 2017.
 - Judyta Barbara Tillak: "Design and Implementation of ASIC for Portable Piezoelectric Ultrasonic Arrays", Masdar Institute, June 2017.
 - Wala Salem Mustafa Saadeh: "Design and Implementation of A Hybrid OFDM Low Energy Transceiver for Head-and Body- Area Network", Masdar Institute, June, 2016.
 - Christos Vezyrtzis: "Continuous-time and Companding Digital Signal Processors Using Adaptivity and Asynchronous Techniques", Columbia University, New York, May 2013
 - Hammad Cheema: "PLL Design for mm-wave CMOS Transceivers", TU Eindhoven, Jan. 2010.
 - Maja Vidojkovic: "Multi-Standard and Adaptive RF Front-Ends", TU Eindhoven, March, 2011;
 - Razvan Ionita: "Body Effects in CMOS RF IC's", Institute Supérieur d'Electronique de Paris (ISEP), 2005;
 - Aleksandar Tasic: "Adaptive RF Front-End Circuits", Delft University of Technology, April 2005;
 - Pieter Rombouts: "Fault-Corrections for A/D and D/A Converters", University of Gent, June 2000;
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MSc Examination Committee Member and MSc Thesis Advisor

- Amna AlShamsi, “CMOS High Efficiency and Linearity Transmitters for Wireless Communications”, Masdar Institute, May 2017. **Best Thesis Award**
- Shaikha ALShehhi, “A Near-Field mm-Wave Imaging Technique for Skin Cancer Detection”, Masdar Institute, May 2017.
- Shoeb Shaikh, “GaN High Efficiency Transmitters for Wireless Communication”, Masdar Institute, May 2016
- Hammad Albloshi, “Hybrid Energy Harvester for Ultra Low Radios (ULP) Applied to Internet of Things (IOT) and Hybrid Invisible Tags”, Masdar Institute, May 2016.
- Noora AlShehhi, “Small Footprint Autonomous PLL-Less, Hybrid Tag”, Masdar Institute, May 2016
- Badreyya AlShehhi, “Ultra-Low-Power, Small Footprint, 120GHz, CMOS Radio Transmitter with On-chip Antenna for Internet of Things (IoT)”, Masdar Institute, May 2016.
- Bahaa Radi, “Low power mm-Wave Transmitter Architecture with On-chip Resonator/ All Digital PLL”, Masdar Institute, May 2015.
- Kai-Wei Lin, “An Energy Efficient mm-Wave Receiver For Wireless Sensor Networks”, Masdar Institute, May 2015.
- Hendricus Theodorus van der Zanden, “Design of an eight-phase oscillator in 90nm CMOS”, TU Eindhoven, April 2007.
- Jiansong Wang, “Tunable Bandpass Polyphase Filter in Near-Zero, Broadband IF, CMOS Receivers”, TU Delft, July 2007.
- Wanghua Wu, “17GHz Receiver Front-End Design”, TU Delft, Feb. 2007.
- Xia Li, “17GHz Transmitters for Wireless Sensor Networks”, TU Delft, Aug.2007.
- Zheng Renliang, “Wide Bandwidth Polar Modulators”, TU Delft, Aug. 2005.
- Gang Zhang, “60GHz RF Design in 90nm CMOS”, TU Delft, Aug. 2005.
- Yanyu Jin, “60 GHz Power Amplifier in 90nm CMOS Technology”, TU Delft, Aug.2006.
- Anthony Ng'oma, "Design of a Radio-over-Fibre System for Wireless LANs", TU Eindhoven, 2005
- Bo Li, “Full-Rate, Tri-State, Phase-Frequency Detector for 10GB/s Data and Clock Recovery in CMOS 18”, Fontyss High School, June 2003.
- Victoria Ramirez, “Linear Phase Detectors for 10GB/s Data and Clock Recovery in CMOS 18”, Fontyss High School, June 2003.
- S.G. Kwaaitaal, “Preliminary Study of a Source-Coupled Logic Frequency Divider for RF Applications”, University of Twente, Enschede, Feb. 1999.
- Johan Haanstra, “A Low-Voltage, Low-Power Analog Polyphase Filter for Mobile Receivers in Sub-micron CMOS”, University of Twente, May 1999.
- Marco Lammers, “Design and Realization of a CMOS Chopper Opamp”, University of Twente, Enschede, Oct. 1997.
- Ben Gelissen, “Design of a One Bit Audio Digital-to-Analog Converter with Time Discrete Filtering”, University of Twente, Enschede, June 1996.

Memberships

- Semiconductor Research Center (SRC) membership

- Valued IEEE Member for 16 years (#41310799)
 - IEEE Senior Member of Solid-State Circuit Society
 - IEEE Senior Member of Circuits and Systems Society
 - IEEE Senior Member of Microwave Theory and Techniques Society (MTT-S)
 - PII-EII Alumni
 - TU TWENTE Alumni
 - Madison Who's Who lifetime membership (Platinum)
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Review Editorships

- Editorial Board of the "Analog Integrated Circuits & Systems Journal"
- Associate Editor for IEEE Transactions on Circuits and Systems (2012-2013)
- Associate Editor for Electronics and Signal Processing
(https://elspublishing.com/journals/electronics-and-signal-processing/editorial_board/)
- TPC Member of The 16th IEEE Mediterranean Microwave Symposium (MMS'2016)
- TPC Member of The 17th IEEE Mediterranean Microwave Symposium (MMS'2017)
- TPC Member of The 2016, 29th International Conference on VLSI Design and 2016, 15th International Conference on Embedded Systems (VLSID)
- TPC Member of The 2017, 30th International Conference on VLSI Design and 2017, 16th International Conference on Embedded Systems (VLSID)

17TH MEDITERRANEAN MICROWAVE SYMPOSIUM (MMS2017)

NOVEMBER 28-30, 2017 – MARSEILLE, FRANCE

http://www.fresnel.fr/mms2017/IMG/pdf/call_for_paper_mms_2017-2.pdf

- TPC member of the IEEE VLSI SOC 2017 Conference
 - TPC member of the IEEE Custom Integrated Circuits Conference (2011-2012)
 - Reviewer for IEEE Transactions on VLSI Technology
 - Reviewer IEEE Transactions on Circuits and Systems I
 - Reviewer Transactions on Circuits and Systems II
 - Reviewer for IEEE Journal of Solid States
 - Reviewer for IET Circuits, Devices and Systems
 - Reviewer for Frequenz De Gruyter
-

Organization of Special Sessions/Tutorials

- Organizing Committee of IEEE VLSI SOC 2017, Conference, Abu Dhabi, UAE
 - Chairman of the Special Session "Multifunctional Circuits and Systems for Future Generations of Wireless Communications" at *International Symposium on Circuits and Systems*, May 2007, New Orleans, USA.
 - Tutorial "Energy Efficiency and the Internet of Things: From Circuits to Protocols" on 2016 IEEE 59th International Midwest Symposium on Circuits and Systems (MWSCAS), October 2016, Abu Dhabi, UAE.
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Summary of Major Research Contributions to the field

- 54 granted US patents related to the research field / 85 papers published in IEEE Journals and Conferences/ 21 Invited papers / Citation h-index of 22, i10-index of 46
- 5-Books or book chapters
- 22 graduated MSc students and 7 PhD students
- 7 Philips Research Awards and 5 IBM Research Awards /
- TPC member of the IEEE Custom Integrated Circuits Conference (2012), TPC member of the 29th International Conference on VLSI Design, 2016, Organizer and TPC Member of IEEE VLSI SOC 2017 Conference, TPC Member of The 17th IEEE Mediterranean Microwave Symposium (MMS'2016), TPC Member of The 17th IEEE Mediterranean Microwave Symposium (MMS'2017)
- Associate Editor for IEEE Transactions on Circuits and Systems (2012-2013)
- Recipient of IBM O-1 visa program (individuals with exceptional abilities) for three years
- IBM liaison for the SRC THz program working with different US universities
- "Power, accuracy and noise aspects in CMOS mixed-signal design" PhD Dissertation
- "W-Band Scalable Phased-Array Transceiver" achieved highest integration at W-Band
- "A Near-Field mm-Wave Imaging Technique" First Near-Field Skin Cancer Detection Device
- "A 60GHz, Linear, Direct Down-Conversion Mixer with mm-Wave Tunability in 32nm CMOS SOI" State of Art Performance in terms of linearity
- "Flexible, Ultra-Thin RFID-tag" World's first flexible RF tag
- "e-Cubes European Project" 3D Integrated Micro/Nano Modules for Easily Adapted Applications
- "17GHz Radio Transceiver" First 1nJ/bit radio transceiver
- "A 4GS/s, 8.45 ENOB and 5.7fJ/Conversion, Digital Assisted, Sampling System in 45nm CMOS SOI" State of Art Performance (Linearity and energy/conversion)
- "A 3.2GS/s 4.55b ENOB Two-Step Subranging ADC in 45nm SOI CMOS" State of Art Performance: Lowest Energy/conv. step above 2GS/s
- "mm-Wave Receiver" First 60GHz Integrated Receiver in 90-nm CMOS

References

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