



Name & Surname: Mohammad Soroosh

Date of Birth: 1979



Address, Suburb, State, Postcode: Department of Electrical Engineering, Shahid Chamran University of Ahvaz, Ahvaz, Khuzestan Province, Iran.



Phone/Mobile Number: +98-33330012/Ext.:5611



E-mail address: m.soroosh@scu.ac.ir

PROFESSIONAL PROFILE:

Associate Professor of Electronics in Shahid Chamran University (SCU) of Ahvaz.

EDUCATION BACKGROUND:

Ph.D.: Electronic Engineering (2009), Tarbiat Modares University, Tehran, Iran

Thesis Title:

“Design and Simulation of Avalanche Photodiodes Using Monte Carlo Method”

M.Sc.: Electronic Engineering (2003), Tarbiat Modares University, Tehran, Iran

Dissertation Title:

“Designing an Equivalent Circuit for Noise in Avalanche Photodiodes”

B.S.: Electrical Engineering (1999), Isfahan University of Technology, Isfahan, Iran



TEACHING AND TRAINING EXPERIENCE:

- Photonic Crystals (Ph.D.&M.Sc.)
- Quantum Electronics (Ph.D.&M.Sc.)
- Optoelectronics I (Ph.D.&MSc.)
- Optoelectronics II (Ph.D.&M.Sc.)
- Electronics I (B.Sc.)
- Digital Systems I (B.Sc.)
- Electrical Measurement (B.Sc.)

HONOURS AND AWARDS:

- Shahid Chamran University prize for "the best researcher" of the year 2020 in the field of engineering
- Khuzestan province prize for "the best researcher" of the year 2019 in the field of engineering
- Shahid Chamran University prize for "the best researcher" of the year 2018 in the field of engineering
- Khuzestan province prize for "the best supervisor" of the year 2017 in the field of engineering
- Shahid Chamran University prize for "the best researcher" of the year 2016 in the field of engineering
- Ilam province prize for "the best student in scientific Olympiad" of the year 1993

INTERESTS AND RESEACH FIELDS:

- Designing Plasmonic devices, Optoelectronic devices, and Photonic crystals

RESEARCH ACTIVITIES:

- [1] M. Makvandi, M. J. Maleki, and M. Soroosh, "Compact All-Optical Encoder Based on Silicon Photonic Crystal Structure", Journal of Applied Research in Electrical Engineering, vol. 1, pp. 1-6, 2021.
- [2] M. J. Maleki, A. Mir, and M. Soroosh, "Design and analysis of a new compact all-optical full-adder based on photonic crystals", Optik, vol. 226, no. 3, pp. 1-9, 2020.
- [3] M. J. Maleki, A. Mir, and M. Soroosh, "Ultra-fast all-optical full-adder based on nonlinear photonic crystal resonant cavities", Photonic Network Communications, Accepted for publication, 2020.
- [4] A. Rahimifar, Y. Seifi Kaviani, H. Kaabi, and M. Soroosh, "Predicting the energy consumption in software defined wireless sensor networks: a probabilistic Markov model approach", Accepted for publication, 2020.
- [5] M. J. Maleki, M. Soroosh, and A. Mir, "Ultra-fast all-optical 2-to-4 decoder based on a photonic crystal structure", Applied Optics, vol. 59, no. 18, pp. 5422-5428, 2020.



- [6] R. Moradi, E. Farshidi, and M. Soroosh, “Digital Background Calibration of Analog Errors in Passive Sigma-Delta Modulator”, Tabriz Journal of Electrical Engineering, vol. 49, no. 3, pp. 23-33, 2020.
- [7] M. J. Maleki and M. Soroosh, “A novel proposal for performance improvement in two-dimensional photonic crystal-based 2-to-4 decoders”, Laser Physics, vol. 30, p. 076203, 2020.
- [8] A. Mirali, M. Soroosh, and E. Farshidi, “Ultra-Fast All-Optical Half Subtractor Based on Photonic Crystal Ring Resonators”, Journal of Optoelectrical Nanostructures, vol. 5, no. 1, pp. 83-100, 2020.
- [9] M. J. Maleki, A. Mir, and M. Soroosh, “Designing an ultra-fast all-optical full-adder based on nonlinear photonic crystal cavities”, Optical and Quantum Electronics, vol. 52, no. 4, p. 196, 2020.
- [10] M. Soroosh, F. Haddadan, and N. Alaei-Sheini, “Designing an electro-optical encoder based on photonic crystals using the graphene–Al₂O₃ stacks”, Applied Optics, vol. 59, no. 7, pp. 2179-2186, 2020.
- [11] R. Moradi, E. Farshidi, and M. Soroosh, “Digital Calibration of Memory Errors in Passive Sigma-Delta Modulator”, IETE Journal of Research, vol. 66, no. 1, pp. 14-21, 2020.
- [12] Z. Seraj, M. Soroosh, N. Alaei-Sheini, “Ultra-compact ultra-fast 1-bit comparator based on a two-dimensional nonlinear photonic crystal structure”, Applied Optics, vol. 59, no. 3, pp. 811-816, 2020.
- [13] F. Hadadan and M. Soroosh, “A New Proposal for 4-to-2 Optical Encoder Using Nonlinear Photonic Crystal Ring Resonators”, International Journal of Optics and Photonics, vol. 13, no. 2, pp. 119-126, 2019.
- [14] M. J. Maleki, M. Soroosh, and A. Mir, “Improving the Performance of 2-To-4 Optical Decoders Based on Photonic Crystal Structures”, Crystals, vol. 9, no. 12, p. 635, 2019.
- [15] S. M. H. Jalali, M. Soroosh, and G. Akbarizadeh, “Ultra-fast 1-bit comparator using nonlinear photonic crystalbased ring resonators”, Journal of Optoelectrical Nanostructures, vol. 4, no. 3, pp. 59-62, 2019.
- [16] M. Modava, G. Akbarizadeh, and M. Soroosh, “A Novel Hierarchical Coastline Detection in SAR Images Based on Spectral-Textural Features and Global-Local Information”, IET Radar, Sonar & Navigation, Accepted for publication, 2019.
- [17] B. Mohammadi, M. Soroosh, A. Kavsarian, and Y. Seifi Kavian, “Improving the transmission efficiency in eight-channel all optical demultiplexers”, Photonic Network Communications, vol. 38, no. 1, pp. 115-120, 2019.
- [18] M. Modava, G. Akbarizadeh, and M. Soroosh, “Integration of Spectral Histogram and Level Set for Coastline Detection in SAR Images”, IEEE TRANSACTIONS ON AEROSPACE AND ELECTRONIC SYSTEMS, vol. 55, no. 2, pp. 810-819, 2019.
- [19] T. Daghooghi, M. Soroosh, and K. Ansari-Asl, “Slow light in ultracompact photonic crystal decoder”, Applied Optics, vol. 58, no. 8, pp. 2050-2057, 2019.
- [20] R. Moradi, E. Farshidi, and M. Soroosh, “A low power passive-active $\Delta\Sigma$ modulator with high-resolution employing an integrator with open-loop unity-gain buffer”, Integration, vol. 64, pp. 137-142, pp. 2019.



- [21] A. Shaverdi, M. Soroosh, and E. Namjoo, “Quality Factor Enhancement of Optical Channel Drop Filters Based on Photonic Crystal Ring Resonators”, International Journal of Optics and Photonics, vol. 2, no. 2, pp. 129-136, 2018.
- [22] S. Sajjadnia, M. Soroosh, and K. Ansari-Asl, “Proposal a New Design to Efficiency Enhancement of GaN Light-Emitting Diode Based on Photonic Crystal”, TABRIZ JOURNAL OF ELECTRICAL ENGINEERING, vol. 48, no. 3, pp. 1179-1186, 2018.
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- [24] F. Haddadan and M. Soroosh, “Low-power all-optical 8-to-3 encoder using photonic crystal-based waveguides”, Photonic Network Communications, vol. 32, no. 2, pp. 113-119, 2018.
- [25] T. Daghooghi, M. Soroosh, and K. Ansari-Asl, “A Low-Power All Optical Decoder Based on Photonic Crystal Nonlinear Ring Resonators”, OPTIK-International Journal for Light and Electron Optics, vol. 152, no. 4, 167-174, 2018.
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- [29] T. Daghooghi, M. Soroosh, and K. Ansari-Asl, “A novel proposal for all-optical decoder based on photonic crystals”, Photonic Network Communications, vol. 35, no. 10, pp. 335-341, 2018.
- [30] M. Neisy, M. Soroosh, and K. Ansari-Asl, “All optical half adder based on photonic crystal resonant cavities”, Photonic Network Communications, vol. 35, no. 2, pp. 245-250, 2018.
- [31] T. Daghooghi, M. Soroosh, and K. Ansari-Asl, “Ultra-fast all-optical decoder based on nonlinear photonic crystal ring resonators”, Applied optics, vol. 57, no. 9, pp. 2250-2257, 2018.
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- [47] F. Mehdizadeh, M.Soroosh, H. Alipour-Banaei, "A novel proposal for optical decoder switch based on photonic crystal ring resonators", *Optical and quantum electronics*, Vol. 48, No. 1, pp. 1-9, 2016.
- [48] F. Mehdizadeh, M.Soroosh, "Designing of all optical NOR gate based on photonic crystal", *Indian journal of pure & applied physics*, Vol. 54, No. 1, pp. 35-39, 2015.



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PROFESSIONAL MEMBERSHIPS:

- Optical Society of America
- Optical Society of Iran
- Institute of Electrical and Electronics Engineers

LANGUAGES:

Persian (native)

English (good)

Kurdish (good)