

# Curriculum Vitae



**NAME & SURNAME:** Abdolnabi Kosarian

**DATE OF BIRTH:** 28/07/1960



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## PROFESSIONAL PROFILE:

Professor of Electronic Engineering at Shahid Chamran University (SCU) of Ahvaz, Iran

## EDUCATION BACKGROUND:

**Ph.D.:** Department of Electrical and Electronic Engineering, University of Surrey, Surrey, UK

### Thesis title:

Properties of Chromium Silicide on Hydrogenated Amorphous Silicon

**M.Sc.:** Department of Electrical and Electronic Engineering, Faculty of Engineering, Tehran University, Tehran, Iran

**B.S.:** Department of Electrical and Electronic Engineering, Faculty of Engineering, Tehran University, Tehran, Iran

**High School Diploma:** Shahid Motahhari High School, Behbahan, Iran

## TEACHING AND TRAINING EXPERIENCE:

- Solid State Electronics
- Semiconductor Devices
- Theory and Technology of Semiconductor Devices Fabrication
- Electronics I
- Electronics II
- Pulse Technique and Lab

- Logic Circuits and Lab
- Special Language for Electronic Engineering

## HONOURS AND AWARDS:

- National Award for Book Translation into Persian: Semiconductor Devices
- Distinguished Professor Award for Teaching at Shahid Chamran University

## INTERESTS AND RESEARCH FIELDS:

- Semiconductor Devices
- Semiconductor Sensors
- Disordered and Amorphous Semiconductors
- Solar Cell Technology and Devices

## RESEARCH ACTIVITIES:

### PUBLICATIONS:

- 1- **Kovsarian** A. and Shannon J.M., Amorphous Chromium Silicide Formation in Hydrogenated Amorphous Silicon, Journal of Electronic Materials, 27 (1268) 1998
- 2- **Kovsarian** A. et al, Comparison of amorphous Mo and Cr disilicides in hydrogenated amorphous silicon, Journal of Non-Crystalline solids, 276 (40), 2000
- 3- Shannon J.M., **Kovsarian** A. and Curran J.E., Current gain in amorphous silicon hot electron devices, Electronic letters, Vol. 33 No. 24, 1997
- 4- P. Jelodarian and A. **Kosarian**, Effect of p-Layer and i-Layer Properties on the Electrical Behaviour of Advanced a-Si:H/a-SiGe:H Thin Film Solar Cell From Numerical Modeling Prospect, International Journal of Photoenergy, 2012
- 5- A. **Kosarian** and P. Jelodarian, Modeling and Optimization of Advanced Single and Multi-Junction Solar Cells Based on Thin-Film a-Si:H/SiGe Hetero-Structure, International Scholarly Research Network, ISRN Renewable Energy, 2011
- 6- Detailed Analysis of Cascaded Multilevel Converter Based STATCOM, M. Heidari, A. **Kovsarian**, S. GH. Seifossadat, International Review on Modelling and Simulations (IREMOS), 507-516, April 2011
- 7- Simultaneous Controlling of Power and Harmonic compensation using UPFC based on

- Instantaneous Power Theory*, M. Joorabian and A. Kosarian, *Scientific Journal of Engineering Faculty of Tabriz University*, 2007 (in Persian)
- 8- Monte Carlo Model for Carrier Transport in Quantum Well Solar Cell, A. Keramatzadeh, A. **Kosarian**, M. Soroosh, Science Series Data Report, Vol 5, No. 8; Aug. 2013
  - 9- Reduction of Leakage Current in Grid Connected Three-Phase PV Inverters, A. Keramatzadeh, A. **Kosarian**, S. G. Seifossadat, Science Series Data Report, Vol. 5, No. 8; Aug. 2013
  - 10- Design and Simulation of a Novel Double Electron Layer Tunneling Diode, P. Shabani, J. Ganji, A. **Kosarian**, Science Series Data Report, Vol. 5, No. 8; Aug. 2013
  - 11- Efficiency improvement of CdZnTe solar cell by modification of interface layer, Neda Rezaie & Abdolnabi **Kosarian**, Optical and Quantum Electronics, Volume 37, Number 6, June 2015
  - 12- Comparing the performance of Organic-inorganic hybrid tandem multijunction solar cells of different organic bulk thicknesses, Abdolnabi **Kosarian**, Mehrdad Kankanani, Mohamad Ali Khalafi, *Ciência e Natura*, Santa Maria, v. 37 Part 1 2015, p. 49–54
  - 13- Effects of processing parameters on crystalline structure and optoelectronic behavior of DC sputtered ITO thin film, M. Shakiba, A. **Kosarian**, E. Farshidi, *Journal of Materials Science: Materials in Electronics*, Sep. 1996,
  - 14- Numerical modeling of thermal behavior and structural optimization of a-Si:H solar cells at high temperatures, J. Ganji, A. **Kosarian**, H. Kaabi, *Journal of Computational Electronics*, Oct. 2016, doi:10.1007/s10825-016-0913-3
  - 15- Role of sputtering power on the microstructural and electro-optical properties of ITO thin films deposited using DC sputtering technique, M. Shakiba, A. **Kosarian**, E. Farshidi, *IEEE Transactions on Electrical and Electronic Engineering*, under revision.
  - 16- Analysis and Implementation of High Step-Up DC/DC Converter with Modified Super-Lift Technique, Rezvan Fani†, Ebrahim Farshidi\*, Ehsan Adib\*\*, and Abdolnabi Kosarian\*, *Journal of Power Electronics*, Vol. 19, No. 3, pp. 645-654, May 2019
  - 17- Analysis, Design, and Implementation of a ZVT High Step-Up DC–DC Converter With Continuous Input Current, Rezvan Fani , Ebrahim Farshidi, Ehsan Adib , *Member, IEEE*, and Abdolnabi Kosarian, *IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS*, VOL. 67, NO. 12, DECEMBER 2020
  - 18- Interleaved non-isolated DC–DC converter for ultra-high step-up applications, Rezvan Fani , Ebrahim Farshidi, Ehsan Adib, and Abdolnabi Kosarian, *IET Power Electronics*, Vol. 133, Iss, 18, pp4261-4269, 2020
  - 19- High performance photoresponsivity and high frequency of phosphorene/metal heterojunction as Schottky photodiode rectifier, Mansoor Farbod, Rasoul Taheri, Abdolnabi Kosarian, *Applied Materials Today* 24 (2021)

- 20- Improving structural, optical, and electrical properties of uc-Si:H using non-uniform hydrogen dilution treatment of RF-PECVD prepared layers, Zahra Dorostghol , Abdolnabi Kosarian, *Materials Science in Semiconductor Processing* 129 (2021)
- 21- Preparation, characterization and photocatalytic performance of phosphorene/MoS<sub>2</sub> as a 2D hybrid semiconductor, Mansoor Farbod a,\*, Rasoul Taheri a, Abdolnabi Kosarian, *Materials Science in Semiconductor Processing*, 123 (2021)
- 22- An ultra-low power high-precision logarithmic-curvature compensated all-CMOS voltage reference in 65 nm CMOS, Tayebah Ghanavati Nejad, Ebrahim Farshidi, Henrik Sjoland, Abdolnabi Kosarian, *Analog Integrated Circuits and Signal Processing* (2021) 107:319–330
- 23- New digital background calibration method for pipelined ADCs, Ehsan Zia, Ebrahim Farshidi and Abdolnabi Kosarian, *The international journal for computation and mathematics in electrical and electronic engineering*, Vol. 39 No. 4, pp. 871-884, 2020
- 24- Digital calibration of pipelined ADC using Newton–Raphson algorithm, Ehsan Zia, Ebrahim Farshidi, Abdolnabi Kosarian, *Analog Integrated Circuits and Signal Processing*, **104**, pages 61–70 (2020)
- 25- Improvement electrical and optical properties of thin ITO films by modifying electrode spacing in DC magnetron sputtering, A. Kosarian, A. Keramatzadeh, M. Shakiba, H. Kaabi, E. Farshidi, **TABRIZ JOURNAL OF ELECTRICAL ENGINEERING, Volume 50, 2020 (in Persian)**
- 26- Effect of Oxygen Flow Rate in Zinc Oxide Radio Frequency Magnetron Sputtering on the Structural and Optical Properties of ZnO|PEDOT:PSS Inorganic|Organic Hetero-Junction, B. Boroomand Nasab, A. Kosarian, and N. Alaei Sheini, *Semiconductors*, Vol. 54, No. 8, pp. 844–852, 2020
- 27- A Split-Based Digital Background Calibration of Pipelined Analog-to-Digital Converters by Cubic Spline Interpolation Filtering, Ehsan Zia<sup>1</sup> · Ebrahim Farshidi<sup>1</sup> · Abdolnabi Kosarian, *Circuits, Systems, and Signal Processing* **volume 38**, pages 4799–4816 (2019)
- 28- Effect Of Zinc Oxide RF Sputtering Pressure on the Structural and Optical Properties of ZnO/PEDOT:PSS Inorganic/Organic Heterojunction, Bahareh Boroomand Nasab, Abdolnabi Kosarian, Navid Alaei Sheini, *Journal of Optoelectrical Nanostructures*, Vol. 4, No. 3 (2019)
- 29- *Improving the transmission efficiency in eight channel all optical demultiplexers*, Bahareh Mohammadi, Mohammad Soroosh, Abdolnabi Kosarian, Yousef Seifi-Kavian, *Photonic Network Communications*, *Photonic Network Communications* 38:115–120 (2019)

- 30- A high precision logarithmic-curvature compensated all CMOS voltage reference, Tayebbeh Ghanavati Nejad, Ebrahim Farshidi, Henrik Sjoland, Abdolnabi Kosarian, Analog Integrated Circuits and Signal Processing, Volume 99, Issue 2, pp 383–392, May 2019
- 31- Stability enhancement of ITO-free non-inverted PTB7:PC71BM solar cell using two-step post-treated PEDOT:PSS, **Journal of Materials Science: Materials in Electronics (JMSE), Vol. 2, No. 14, 2018**
- 32- POWER QUALITY IMPROVEMENT WITH CASCADED MULTILEVEL CONVERTER BASED STATCOM, M. Heidari, A. Kavsarian, S. Gh. Seifossadat, IIUM Engineering Journal, **Vol. 19, No. 1, 2018**
- 33- Optimized fuzzy cellular automata for synthetic aperture radar image edge detection, Mohammad Farbod, Gholamreza Akbarizadeh, Abdolnabi Kosarian, Kazem Rangzan, Journal of Electronic Imaging 27(1), 013030 (Jan/Feb 2018)

## CONFERENCE PRESENTATIONS:

- 1- Numerical evaluation and characterization of single junction solar cell based on thin-film a-Si:H/a-SiGe:H heterostructure, Abdolnabi Kavsarian, Peyman Jelodarian, 19th Iranian Conference on Electrical Engineering , Tehran, Iran, 1390H
- 2- Optimization and characterization of advanced solar cells based on thin film a-Si:H/a-SiGe:H heterostructure, Abdolnabi Kavsarian, Peyman Jelodarian, 19th Iranian Conference on Electrical Engineering , Tehran, Iran, 1390H
- 3- Optimization and characterization of a single junction solar cell based on thin-film a-Si:H/a-SiGe:H heterostructure, Abdolnabi Kavsarian, Peyman Jelodarian,

## PROFESSIONAL MEMBERSHIPS:

- IEEE Member
- Member of Iranian Association of Electrical and Electronic Engineers (IAEEE)
- Member of Iranian Society of Engineering Education
- Member of Publishing Committee of Shahid Chamran University

## LANGUAGES:

**PERSIAN:** Native

**ENGLISH:** Fluent