

Zahra Arefinia	
Assistant Professor	
	Research Institute for Applied Physics & Astronomy, University of Tabriz , Tabriz, 51665-163, Iran
	Postcode: 51666-14766
	Phone : +984133393029
	Cell : +989147399962
	Telegram : @ZahraArefinia
	Email : arefinia@ieee.org arefinia@tabrizu.ac.ir arefinia@gmail.com
Education	2011-2015, Research Institute for Applied Physics and Astronomy, University of Tabriz, Tabriz, Iran, Doctor of Philosophy (PhD) in Photonics, Gpa 18.88/20 Title of Thesis: the Modeling of Graphene-Based Solar Cell and Optimizing its Conversion Efficiency Supervisor: Prof. Asghar Asgari
	2005-2008, Electrical and Computer Engineering Faculty, University of Semnan, Semnan, Iran, Master of Science (M.Sc.) in Photonics, Gpa 18.55/20 Title of Thesis: Analysis and Simulation of Carbon Nanotube Field- Effect Transistors Supervisor: Prof. Ali Asghar Orouji
	2000-2004, Department of Physics, University of Semnan, Semnan, Iran, Bachelor of solid-state physics, Gpa 17.03/20
Honors and awards	First rank BSc graduate from Department of physics, University of Semnan.
	Selected graduate at MSc., Electrical and Computer Engineering Faculty, University of Semnan
	Top student of University of Tabriz, 2014
Membership	The Institute of Electrical and Electronics Engineers (IEEE) IEEE Electron Devices Society IEEE Photonics Society
	National Elites Foundation
Teaching Experiences	Title of Courses Modern Physics, Electronics I, Basic Physics II
	Name of Institution University of Semnan
Computer Skills	Application Software Packages: Microsoft Office, Endnote, Matlab, Lumerical

Publications	✓ Z. Arefinia and A. A. Orouji, "Investigation of the novel attributes of a carbon nanotube FET with high- κ gate dielectrics," <i>Physica E: Low-dimensional Systems and Nanostructures</i> , Vol. 40, pp. 3068-3071, 2008.
Journal Papers	✓ Z. Arefinia and A. A. Orouji, "Impact of single halo implantation on the carbon nanotube field-effect transistor: A quantum simulation study," <i>Physica E: Low-dimensional Systems and Nanostructures</i> , Vol. 41, pp. 196-201, 2008.
	✓ Z. Arefinia and A. A. Orouji, "Novel attributes in scaling issues of carbon nanotube field-effect transistors," <i>Microelectronics Journal</i> , Vol. 40, pp. 5-9, 2009.
	✓ A. A. Orouji and Z. Arefinia , "Detailed simulation study of a dual material gate carbon nanotube field-effect transistor," <i>Physica E: Low-dimensional Systems and Nanostructures</i> , Vol. 41, pp. 552-557, 2009.
	✓ Z. Arefinia and A. A. Orouji, "Performance and design considerations of a novel dual-material gate carbon nanotube field-effect transistors: Nonequilibrium Green's function approach," <i>Japanese Journal of Applied Physics</i> , Vol. 48, pp. 024501-1–027501-7, 2009.
	✓ Z. Arefinia and A. A. Orouji, "Novel Attributes in the performance and Scaling effects of Carbon Nanotube Field-Effect Transistors with Halo Doping" <i>Superlattices and Microstructures</i> , Vol. 45, pp. 535–546, 2009.
	✓ Z. Arefinia and A. A. Orouji, "Quantum Simulation Study of a New Carbon Nanotube Field-Effect Transistor with Electrically Induced Source/Drain Extension" <i>IEEE Transactions on Device and Materials Reliability</i> , Vol. 9, No. 2, pp. 237-243, 2009.
	✓ Z. Arefinia , "Investigation of the performance and band-to-band tunneling effect of a new double halo doping carbon nanotube field-effect transistor," <i>Physica E: Low-dimensional Systems and Nanostructures</i> , Vol. 41, pp. 1767-1771, 2009.
	✓ Z. Arefinia , "Nonequilibrium green's function treatment of a new nanoscale dual-material double-gate mosfet," <i>Physica E: Low-dimensional Systems and Nanostructures</i> , Vol. 43, pp. 1105-1110, 2011.
	✓ Z. Arefinia , "Full quantum simulation study of a nano tri-material double gate silicon-on-insulator MOSFET," <i>Materials Science in Semiconductor Processing</i> , Vol. 16, pp. 1240-1247, 2013.
	✓ Z. Arefinia and A. Asgari, "Novel attributes in the scaling and performance considerations of the one-dimensional graphene-based photonic crystals for terahertz applications," <i>Physica E: Low-dimensional Systems and Nanostructures</i> , Vol. 54, pp. 34-39, 2013.
	✓ Z. Arefinia and A. Asgari, "Novel attributes in modeling and optimizing of the new graphene based $\text{In}_x\text{Ga}_{1-x}\text{N}$ Schottky barrier solar cells," <i>Journal of Applied Physics</i> , vol. 115, p. 194506, 2014.
	✓ Z. Arefinia and A. Asgari, "A new modeling approach for graphene based silicon nanowire Schottky junction solar cells," <i>Journal of Renewable and Sustainable Energy</i> , vol. 6, p. 043132, 2014.

	<p>✓ Z. Arefinia and A. Asgari, "An analytical model for optimizing the performance of graphene based silicon Schottky barrier solar cells," <i>Materials Science in Semiconductor Processing</i>, vol. 35, pp. 181-188, 2015.</p> <p>✓ Z. Arefinia and A. Asgari, "Optical and Electrical Modeling of Solar Cells Based on Graphene and Si Nanowires with Radial p-i-n Junctions," <i>Solar Energy Materials and Solar Cells</i>, vol. 137, pp. 146-153, 2015.</p> <p>✓ زهرا عارفی‌نیا و علی‌اصغر اروجی, « یافته های نوین در مشخصات و اثرات کانال کوچک ترانزیستورهای اثرمیدانی نانوتیوب کربن دوگیتی », روش های عددی در مهندسی (استقلال), دوره ۲۹, شماره ۲, صفحه ۱-۹, ۱۳۸۹.</p>
International Conference Papers	<p>➤ A. A. Orouji and Z. Arefinia, "The Impact of High-κ Gate Dielectrics on Carbon Nanotube Transistors," <i>14th International Workshop on the Physics of Semiconductor Devices (IWPSD)</i>, pp. 831-833, 2007.</p> <p>➤ Z. Arefinia and A. A. Orouji, "Quantum Simulation Study of Dual-Material Double Gate (DMDG) MOSFET: NEGF Approach," <i>IEEE Silicon Nanoelectronics Workshop</i>, Hilton Hawaiian Village, Honolulu,, USA, 2008.</p> <p>➤ Z. Arefinia and A. A. Orouji, "Quantum Simulation Study of Dual Material Gate Carbon Nanotube Field-Effect Transistor," <i>15th International Conference on Superlattices, Nanostructures and Nanodevices</i>, pp. 171, Natal, Brazil, 2008.</p> <p>➤ Z. Arefinia and A. Asgari, "Scaling Issue of the Optical Absorption of Cylindrical Silicon Nanowires Array", <i>5th International Congress on Nanoscience & Nanotechnology (ICNN2014)</i>, Tarbiat Modares University, Tehran, Iran, 2014.</p> <p>➤ Z. Arefinia and A. Asgari, "Simulation Study of Graphene Based Silicon p-i-n Core-Shell-Shell Nanorods Solar Cell" <i>5th International Congress on Nanoscience & Nanotechnology (ICNN2014)</i>, Tarbiat Modares University, Tehran, Iran, 2014.</p> <p>➤ Z. Arefinia and A. Asgari, "Graphene Based Semiconductor Nanowire Schottky Junction Solar Cells", <i>International Conference on Sustainable Energy & Environmental Protection</i>, The British University in Dubai, Dubai-UAE, 2014.</p> <p>➤ Z. Arefinia and A. Asgari, "New graphene based III-Nitride Schottky barrier solar cells", <i>2nd International Symposium on Optics and its Applications (OPTICS-2014)</i>, Yerevan-Ashtarak, Armenia, 2014.</p> <p>➤ Z. Arefinia and A. Asgari, "The effect of wire diameter on the performance of solar cells based on graphene and silicon quantum wires", <i>17th International Conference on Numerical Simulation of Optoelectronic Devices (NUSOD2017)</i>, Technical University of Denmark, Denmark , 2017, p. 27.</p>

	<p>➤ Z. Arefinia and A. Asgari, "The intrinsic losses of quantum dot intermediate band solar cells", <i>17th International Conference on Numerical Simulation of Optoelectronic Devices (NUSOD2017)</i>, Technical University of Denmark, Denmark, 2017, p. 125.</p>
National Conference Papers	<p>➤ Z. Arefinia and A. A. Orouji, "Novel attributes on the performance of ultra-scaled asymmetrical double gate soi mosfet: non-equilibrium green's function approach" <i>17th Iranian Conference Electrical Engineering</i>, pp. 371-375, Iran University of Science and Technology (IUST) Tehran, Iran 2009.</p>
	<p>➤ Z. Arefinia and A. Asgari, "Performance considerations of a photonic crystal based on graphene multilayer system" <i>21th Iranian Conference Electrical Engineering</i>, pp. 371-375, Ferdowsi University of Mashhad, Mashhad, Iran 2013.</p>
	<p>➤ Z. Arefinia and A. Asgari, "Simulation and Optimization Study of Graphene/silicon Schottky Barrier Solar Cells," <i>3rd Iranian Conference on Optics and Laser Engineering</i>, Malek-ashter University of Technology, Isfahan, Iran, 2013.</p>
	<p>➤ Z. Arefinia and A. Asgari, "Modeling of the Graphene Based Schottky Barrier Solar Cells on InGaN Substrate" <i>22th Iranian Conference Electrical Engineering</i>, Shahid Beheshti University, Tehran, Iran 2014, pp. 53-56.</p>
	<p>➤ Z. Arefinia and A. Asgari, "A new graphene-on-silicon solar cells by introducing an interlayer of silicon quantum dots," <i>23rd Iranian Conference on Electrical Engineering (ICEE)</i>, 2015, pp. 1415-1418.</p>
	<p>➤ زهرا عارفی نیا و علی اصغر اروجی، « شبیه سازی انتقال کوانتومی در ترانزیستور اثر میدانی نانوتیوب کربن»، دهمین کنفرانس دانشجویی مهندسی برق ایران، اصفهان، دانشگاه صنعتی اصفهان، شهریور ۱۳۸۶.</p>
	<p>➤ زهرا عارفی نیا و علی اصغر اروجی، « جریان نشتی در ترانزیستورهای نانوتیوب کربن با سد شاتکی»، شانزدهمین کنفرانس مهندسی برق ایران، تهران، دانشگاه تربیت مدرس، ص ۵۶-۵۳، اردیبهشت ۱۳۸۷.</p>
	<p>➤ زهرا عارفی نیا و علی اصغر اروجی، « ارائه و شبیه سازی روشهایی جدید برای کاهش اثرات کانال کوچک در ترانزیستور اثر میدانی نانوتیوب کربن»، هفتمین کنفرانس دانشجویی فناوری نانو، تهران، دانشگاه تربیت مدرس، خرداد ۱۳۸۹.</p>