

▶ Mina Amirmazlaghani

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Education

PHD. Student in Electrical Engineering (Solid State) K.N.Toosi university of Technology (2009-2014)

- ▶ GPA 18.94/20
- ▶ Design and Fabrication of IR and THz Detector based on Graphene-Si Schottky Diode

M.Sc. Electrical Engineering K.N.Toosi university of Technology (2007-2009)

- ▶ GPA 19.34/20
- ▶ Behavior Modeling and Small Signal Analyzing of Nanometer Modified FED (Field Effect Diode)

B.Sc. Electrical Engineering K.N.Toosi university of Technology (2003 - 2007)

- ▶ GPA 18.05/20
- ▶ Design of Digital and Analogue Circuits based on Field Effect Diode

Diploma in Mathematics and Physics Nikan High School (1999-2003)

- ▶ GPA 19.86/20

Publications

In English:

- **Mina Amirmazlaghani**, F. Raissi, "Memory Cell Using Modified Field Effect Diode", IEICE Journal, Electronics Express, Vol.6, No.22, 1582-1586.
- **Mina Amirmazlaghani**, F.Raissi, O. Habibpour, J. Vukusic and J. Stake, " Graphene-Si Schottky IR Detector IEEE Journal of Quantum Electronics, vol. 49, NO. 7, (2013), 589-594.
- Fereshteh Ghahramani, **Mina Amirmazlaghani** & Farshid Raissi, (2013), "Evaluation of Photodetection Properties of Graphene-Silicon Schottky IR Detector", International Journal of Green Nanotechnology, 4:4, 464-469.
- **Mina Amirmazlaghani** & Farshid Raissi, "Photo-detection Measurement Results of Graphene-Si Schottky Diode under Millimeter Electromagnetic Radiations", ICNS5, Proceedings of the 5th International Conference on Nanostructures, 6-9 March 2014, Kish Island, Iran.
- **Amirmazlaghani, Mina**, and Farshid Raissi. "Graphene-based detector for w-band and terahertz radiations." U.S. Patent No. 10,121,926. 6 Nov. 2018.
- **Mina Amirmazlaghani**, Farshid Raissi, "Feasibility of Room-Temperature GHz-THz Direct Detection in Graphene through Hot carrier Effect", *IEEE Transactions on Device and Materials Reliability* 18.3 (2018): 429-437.

- Abolfazl Sotoudeh, **Mina Amirmazlaghani**, "Graphene-based Field Effect Diode", *Superlattices and Microstructures*, Vol. 120, 2018, 828-836.
- Pour-Mohammadi, Zeinab, and **Mina Amirmazlaghani**. "Asymmetric finger-shape metallization in Graphene-on-Si solar cells for enhanced carrier trapping." *Materials Science in Semiconductor Processing* 91 (2019): 13-21.
- **Mina Amirmazlaghani**, "Room temperature W-band detector based on graphene diode," SPIE Photonics Europe 2016, accepted for oral presentation, Brussels, Belgium.
- **Mina Amirmazlaghani**, z. pourmohammadi, A. Akbari, A. Rahmani and M. Naemi, "Chemical Graphene Deposition on Si substrate: Different Method Implementation and Comparison," Grapchina2016, Qingdao, China.
- Rahmaninejad. Atefeh, **Amirmazlaghani. Mina**, Pour Mohammadi. Zeinab, "Simulation and study of Double-Material Gate TFT in order to reduce sub-threshold swing", 7th International Conference on Computer Aided Design for Thin-Film Transistor Technologies (IEEE), Beijing, China, 2016.
- Pour Mohammadi. Zeinab, Rahmaninejad. Atefeh, **Amirmazlaghani. Mina**, "Design & Simulation of Graphene/Silicon Schottky Junction Solar Cell for High Efficiency", The 6th Conference On Nanostructured Solar Cells, NSSC95 (2016), Sharif University, Tehran, Iran.
- Farshid Raissi, **Mina Amirmazlaghani**, Ali Rajabi, "Universal Field Effect Transistor", Scientific Reports, *under review*.

In Farsi:

- **Mina Amirmazlaghani**, Farshid Raissi, Fereshteh Ghahramani and Mehdi Khajeh, "Design and Fabrication of Nano Graphene-Si Schottky Diode and Analyzing the Effect of Graphene on its Photoresponsivity", *Journal of Nano Composite*, 10-19 (1392) 13:5.
- Zeinab pourmohammadi, Atefeh rahmani nejad, **Mina Amirmazlaghani**, " Design and simulation of Gr Schottky Solar cell based on Assymetric metallization for efficiency enhancement", *Sanay-e-Electronic*, Vol.8, No. 4, 97-104, 2018.
- **Mina Amirmazlaghani**, FereshtehGhahramani, FarshidRaissi, " Low Power Solar Cell based on Graphene-Si Schottky Junction", 1st National Conference on Nanomaterial and Nanotechnology (CNN), Shahrood, Iran.
- **Mina Amirmazlaghani**, "Evaluation of Different Methods for Measuring the Software Quality", 10th Iranian Student Conference on Electrical Engineering (ISCEE), Isfahan university of technology, 2007.
- **Mina Amirmazlaghani**, FereshtehGhahramani, FarshidRaissi&HamedMehrara, "Evaluation of Graphene Photodetection Properties as IR detector", 3 rd Proceeding of Military Applications of Nanotechnology, Imam Hossein University, Tehran, Iran.
- **Mina Amirmazlaghani**, Hossein ZakiDizaji, " Design and Simulation of Radioisotopy

Battery based on PtSi/Si Schottky Diode” 21 Iranian Nuclear Conference, University of Isfahan, Isfahan, Feb 2015.

- **Mina Amirmazlaghani**, Hamed Mehrara, Alireza Erfanian, Zahra Labbaf and Mohammad Larimian, “Test and Measurement Setup for Milimeter and THz Electromagnetic Waves Detectrs used in Modern Warfare”, 6 th Modern Warfare Defense Conference, Imam Hossein University, Tehran, 2015.
- **Mina Amirmazlaghani**, Mohammad Larimian, Zahra Labbaf, Hamed Mehrara and AlirezaErfanian, “Novel Detectors in MMW and THz regimes”, 6th Modern Warfare Defense Conference, Imam Hossein University, Tehran, 2015.
- **Mina Amirmazlaghani**, Zohre Moradi, “Design and simulation of p-n and p-i-n radioisotope batteries as Novel energy source”, 8 th International Electrical Engineering & Renewable Energy Conference, IEEREC 2015, Mazandaran, Iran, 2015.
- **Mina Amirmazlaghani**, Davood Eslami, “Design, simulation and structural parameters optimization of Field Effect Diode (FED) using TCAD-SILVACO software”, 3rd National and 1st International Conference on Applied Researches in Electrical, Mechanical and Mechatronics Engineering, MalekAshtar University of technology, Tehran, Iran, 2015.

Research Experience

THz Lab – Chalmers University of Technology, Sweden, Visiting Researcher, 2012.

- ▶ Design and fabrication of the set up for THz measurements.
- ▶ Testing and analyzing THz detectors.

Clean Room (MC2) – Chalmers University of Technology, Sweden, Visiting Researcher, 2012.

- ▶ Producing of new nano materials like Graphene.
- ▶ Design and fabrication of Graphene-Si Schottky diode.

Nano material Lab – Chalmers University of Technology, Sweden, Visiting Researcher, 2012.

- ▶ DC characteristics measurement of Nano devices.
- ▶ Photo detection measurements of Nano devices using shielded probe stations.

Thin Film Lab – K.N.Toosi University of Technology, Research Assistant 2006-2009.

- ▶ Simulation and modeling of semiconductor devices.
- ▶ AC and DC modeling of nano-scale transistors.
- ▶ Design of digital and analogue circuits based on new devices.

Microelectronics Lab Malek Ashtar University of Technology, Research Assistant 2009-2013.

- ▶ Design and fabrication of Graphene-based devices.

**Optics and Laser Lab – Malek Ashtar University of Technology, Research Assistant
2009-2013.**

- ▶ Testing and analyzing of IR detectors.

THz Lab – Malek Ashtar University of Technology, Research Assistant, 2013-now

- ▶ Research Project on Novel THz detectors.
- ▶ Project of establishing the THz Lab for Malek Ashtar University of Technology.

**Nanoelectronics lab (NEL) – Iran Nanotechnology Initiative Council, Project manager,
2015-now**

- ▶ Industrialization of Graphene-based Solar Cells.
- ▶ Industrialization of Graphene-based smoke detectors.

Teaching & Academic Activities

- ▶ Head of Nanoelectronics Lab 1 & 2, SRTT University.
- ▶ Assistant Prof. at SRTT University.
- ▶ Teaching of Semiconductor Devices at SRTT University.
- ▶ Teaching of Quantum Electronics at SRTT University.
- ▶ Teaching of Electronic Circuits (1,2,3) at SRTT University.
- ▶ Teaching assistant of Quantum Electronics (4 semesters), K.N.Toosi University of Technology.
- ▶ Teaching assistant of Electronics I (1 semester), K.N.Toosi University of Technology.
- ▶ Teaching assistant of Design of analog integrated circuits (1 semester), K.N.Toosi University of Technology.
- ▶ Member of Scientific Committee, (2007-2008), K.N.Toosi University of Technology.

Awards and Honors

- ▶ Ranked 1st among all students of Electrical Eng. at K.N.Toosi university of Technology. (B.Sc.) 2007
- ▶ Ranked 1st among all students of Electrical Eng. at K.N.Toosi university of Technology. (M.Sc.) 2009
- ▶ M.Sc. Education at K.N.Toosi university of Technology with honor.
- ▶ Best reviewer award in 12th ISCEE.
- ▶ Awarded for innovative projects in Nanotechnology in 6th Tehran Nanotechnology exhibition (2013).
- ▶ Iran representative at Asia Nano Forum for Young Scientist (ANFYS 2014), Japan.
- ▶ Iran representative in Young Leader committee of Asia Nano Forum.
- ▶ Awarded for innovative projects in Nanotechnology in 6th Tehran Nanotechnology exhibition (2015).
- ▶ 300M RLS Grant from Iran Nanotechnology Initiative Council, 2016.

Other Activities

- ▶ Editor at Journal of Electronics Industries (SAIRAN).
- ▶ Reviewer of IEEE Electron Device Letters.
- ▶ Reviewer of IEEE Transaction on Nanotechnology.
- ▶ Advising 10 Master student's Thesis.
- ▶ Reviewer of 12th and 14th ISCEE.

Research Interests

- ▶ Design, Simulation, and Modeling of Nano-Scale Semiconductor Devices.
- ▶ Design, and Fabrication of Solar cell, IR and THz Detectors.
- ▶ High Frequency Electronics.
- ▶ Beta-cell Batteries based on semiconductors.
- ▶ Graphene-Based Electronics.

Academic References

- ▶ Farshid Raissi, Professor at K.N.Toosi University of Tehran, Iran, Email: raissi@kntu.ac.ir
- ▶ Jan Stake, Professor at Chalmers University of Technology, Gothenburg, Sweden, Email: Jan.Stake@chalmers.se
- ▶ Omid Habibpour, Assistant Professor at Chalmers University of Technology, Gothenburg, Sweden, Email: Omid.habibpour@chalmers.se
- ▶ Josip Vukusic, Associate Professor at Chalmers University of Technology, Gothenburg, Sweden, Email: josip.vukusic@chalmers.se
- ▶ Mehdi Neek-amal, Associate Professor at Antwerp University, SRTT University, neekamal@sru.ac.ir.