

## Curriculum Vitae

# Sabah Gaznaghi

## Personal Information



Address: No.30, 10<sup>th</sup> Alley, Farhangian Blvd, Madar Intersection, Urmia, Iran

Address: Nano Technology Research Center, Urmia University, Shahid Beheshti Ave., P.O.B.165, Urmia, Iran

Tel: (+98) 914-724-6696

Date of birth: 28/08/1987

Citizenship: Iran

Email:

[St\\_s.Gaznaghi@Urmia.ac.ir](mailto:St_s.Gaznaghi@Urmia.ac.ir)

[Sabah.Gaznaghi@Hotmail.com](mailto:Sabah.Gaznaghi@Hotmail.com)

## Education

- **2013 – 2016** Urmia University
- **Master's degree in Nanotechnology – Nanophysics**
- **Principal Subjects Covered:** Nanoelectronics, Solar Cells, Nanophysics Laboratory, Nanoparticles & Their Applications, Statistical Mechanics Economics, Modern Quantum Mechanics, Electrodynamics, Advanced Solid State Physics
- **Thesis:** Charge Carriers Density Effect on Efficiency of Graphene-based Dye Sensitized Solar Cells
- **Average grade** (16.21)
- This work has been supported by the Iranian Nanotechnology Initiative Council (INIC)
  
- **2008 – 2013** Bachelor's degree in Physics
- **Project:** Investigation water condensation by laser pulses

## Courses

- **2017 – 2018**
- **Program:** Solar Energy Engineering (MicroMasters Program held by DelftX)
- **Courses:** 1.Photovoltaic Energy Conversion 2.Photovoltaic Technologies 3.Photovoltaic Systems, 4.Integration of PV Systems in Microgrids 5.Capstone
- **Including:** Systems design and engineering, Solar systems installation, Device fabrication and characterization, Project management and consultancy as well as (technical) sales
- **Program Is Ongoing**
  
- **2015 Sep – Dec**
- **Course:** [Solar Energy](#) at Delft University of Technology through edX
- **Principal Subjects Covered:** Solar cells, Solar thermal, PV systems, Economics
- **Verified average grade:** (99/100)
- (DelftX is online learning initiative of Delft University of Technology)
  
- **2014 Nov**
- **Course:** Nanotechnology Human Resources Development at Iranian Nanotechnology Initiative Council (INIC) & (ITC) in Tehran
- **Principal Subjects Covered:** Commercializing Technology, Entrepreneurship, Patent, Developing a Business Plan
  
- **2004 - 2010**
- **Course:** English Language at Academic Center for Education, Culture and Research (ACECR)
- **Principal Subject Covered:** Speaking, Listening, Reading, Writing

## Lab Experience

- **2013 – 2016**
- **Nanotechnology Center, Urmia University**
- Synthesizing nanoparticles via sol-gel method – Synthesizing carbon nanotubes by arch discharge and copper nanoparticles via electrochemical reduction – Designing solar cell measurement system for I-V characterization of solar cells – Using Matlab, Comsol MP, Silvaco and Virtual NanoLab (for modeling and simulation) – TEM operation
  
- **2013 - 2016**
- **Thin Film Laboratory, Urmia University**
- Coating FTO glasses via Spin Coating – Coating photoelectrodes with DC sputtering coater (Using copper as a target) – Measuring roughness & thickness of samples with 3D confocal microscope – Set up Hall AC measurement system for photoelectrodes – Designing sample mounting boards for samples with different dimensions
  
- **2011 Spring**
- **Electronics Laboratory**
- Design different Filters, Diodes, Rectifiers, Choppers – Designing voltage regulator (by using Z. diode) – Designing AC/DC adapter and a self-bias

## Work Experience

- **2016 - Ongoing**
- **Occupation:** Researcher
- **Place / Institution:** Urmia University
- **Subject:** Wireless Power Transfer and PV Systems
  
- **2010 - 2011**
- **Occupation:** English Teacher
- **Place / Institution:** Language City of Dialect
- **Subject:** Teaching Advanced Levels

## Publications

- **Physica Status Solidi A, Applications and Materials Science. 1–6 (2016) / DOI 10.1002/ pssa.201600275**  
“The performance of ruthenium based dye sensitized solar cells in the presence of graphene”  
Authors: Asghar Esmaeili, Sabah Gaznaghi
  
- **IOSR Journal of Electrical and Electronics Engineering (IOSR-JEEE), Volume 11, Issue 4 Ver. I (Jul–Aug. 2016), PP 145-150/ DOI: 10.9790/1676-110401145150**  
“Comparison of GaAs (III-V semiconductors) And Si Vertical Multijunction Solar Cells, As The Converters in The Power Beaming Systems”  
Authors: Hamid Heydari, Sabah Gaznaghi, Muhammad Shojaei Pour, Muhammad Shahraki

## Conferences

- **5<sup>th</sup> Conference on Nanostructured Solar Cells at Sharif University of Technology- Tehran**  
“Effect of Charge Carrier Density On Graphene-based Dye Sensitized Solar Cell”  
Authors: Sabah Gaznaghi, Asghar Esmaeili, M.Taghi Ahmadi
  
- **(ISC) National Conference on Interdisciplinary Researches in Computer, Electrical, Mechanical and Mechatronics Engineering- Qazvin**
  
- **(ISC) 7<sup>th</sup> National Conference on Physics of Payame Noor University- Tabriz**  
“Effect of Graphene Nanocomposites on Charge Carriers Mobility in Dye Sensitized Solar Cell”  
Authors: Sabah Gaznaghi, Asghar Esmaeili
  
- **Conference on Low Dimensional Systems at Tabriz University- Tabriz**  
“Modeling of Hall voltage in a solar cell sensitized by graphene-based pigment”  
Authors: Sabah Gaznaghi, M.Taghi Ahmadi, Asghar Esmaeili, Bahar Meshgin Ghalam

- **Conference on Aerospace and Astronomy of Payame Noor University- Urmia**  
“Multi-dimensional universe and time-space travels”  
Authors: Sabah Gaznaghi – Awarded

## Seminars

- **A Brief Review to Thin Film Solar Cells – Faculty of Sciences, Urmia University**  
Sabah Gaznaghi
- **Seminar on Nanotechnology – Urmia University**  
Sabah Gaznaghi, Kambiz Golmohammadi
- **Statistical Mechanics and Economics – Urmia University**  
Sabah Gaznaghi

## Professional Computer Skills

Program	PVSyst	COMSOL MP	ATK Virtual NanoLab	MATLAB	Mathematica	Solid Works	Silvaco
Proficiency	Very Good	Very Good	Good	Good	Very Good	Fair	Fair

## Language Proficiency

Language	English	German	Kurdish	Persian	Azerbaijani	Turkish
Skill	Reading Writing Speaking Listening	Reading Writing Speaking	Reading Writing Speaking Listening	Reading Writing Speaking Listening	Reading Writing Speaking Listening	Reading Writing Speaking Listening
Proficiency	Excellent	Basic	Native	Native	Native	Very good

## Interests and Ongoing Research Fields

Research Fields	Explanation
Solar Cells	Nanomaterials study and apply them to solar cells, Bandgap Engineering, Optimizing photo-electrochemical cells and vertical multi junction solar cells, Concentrating PV
Solar Energy Engineering	Systems design and engineering, Solar systems installation, Device fabrication and characterization, Project management and consultancy as well as (technical) sales, Systems simulation by using PVSyst
Wireless Power Transfer	WPT (far-field) system design and optimization, Study versatile WPT systems
Energy Storage Systems	Electrochemical cells study and optimization, Using simulators to study nanostructured batteries (Thin film Li-ion and Al-ion batteries)
Commercializing Technology	Feasibility study of commercializing technology innovations and patents
Photonics	Fiber optics in WPT, Concentration systems