

In The Name of GOD
Curriculum Vitae

Personal information

Name and Surname: Roghayeh Ghasempour

Department of Renewable Energy and Environmental Engineering,
Faculty of New Science and Technology (FNST), Tehran University, Iran, Tehran

Email: Ghasempour.r@ut.ac.ir, Ghasempour@alum.sharif.edu

Phone: +98-21-61118527

Fax: +98-21-88617087



Academic position

- **Postdoctoral researcher**

- Department of physics, Sharif University of Technology, Iran, Tehran.

Education

- **Ph.D.**

- *Nanotechnology(Nanophysics)*
- Institute for Nanoscience and Nanotechnology (INST), Sharif University of Technology, Iran, Tehran
- **Dissertation:** *Synthesize and fabrication of gas sensor based on metal oxide/carbon nanotubes systems*
- **Supervisor:** Prof. A. Irajizad and Dr. N. Taghavinia

- **M.Sc.**

- *Physics (Solid State)*
- Department of Basic Science, University of Alzahra^(s), Iran ,Tehran
- **Dissertation:** *Study on magnetoresistance of magnetic multilayer*
- **Supervisor:** Prof. A. Irajizad and Dr. A. Morteza Ali

- **B.Sc.**

- *Physics*
- Department of physics, Sharif University of Technology, Iran, Tehran.
- **Dissertation:** *Operating on Cryostat for investigating of physical property of material in low temperature.*
- **Supervisor:** Prof. A.Irajizad

- **Pre-college**

- High School Diploma in mathematics and physics, Iran, Tehran

- **Honors**

- Ranked 1st among the graduates of the solid state groups in M.Sc .
- Ranked 4nd among the graduates of physics in B.Sc.
- Ranked 2nd in Pre college-High School.

Publication & International Conference

- 1- **Ghasempour R**, Mortzavi S Z , Irajizad A, Rahimi F," *Hydrogen sensing properties of multi-walled carbon nanotube films sputtered by Pd*", International Journal of Hydrogen Energy, Volume 35, Issue 2, (2010), 4445-4449 .
- 2- **Roghayeh Ghasempour**, Azam Irajizad, Mohammad Reza Hormozi Nezhad, "Design and fabrication of sensitive carbon nanotubes/PMMA film for Acetone vapour detection", Int.J.Nannomanufacturing, Vol.5,Nos.3/4, (2010), 268-277.
- 3- Somayeh Fardindoost , Azam Irajizad , Fereshteh Rahimi and **Roghayeh Ghasempour**," *Pd Doped WO₃ Films Prepared by Sol-gel Process for Hydrogen Sensing*", International Journal of Hydrogen Energy, Volume 35, Issue 2, (2010), 854-860 .
- 4- **R Ghasempour** and A Irajizad, "Hybrid multiwalled carbon nanotubes and trioxide tungsten nanoparticles for hydrogen gas sensing ", Journal of Physics. D: Applied Physics. **42** (2009) 165105-165112.
- 5- Davood Abbaszadeh, **Roghayeh Ghasempour**, Fereshteh Rahimi, Azam Irajizad, " *Effective Factors on Methane Sensing of Tin-Oxide Activated by Palladium in Sol-Gel Process*", Sensors & Transducers Journal, Vol.73, Issue 11, (2006) ,819-825.
- 6- M.Ghorbani, A.Irajizad, A.Dolati, **R.Ghasempour**, "The effect of the Cr and Mo on the physical properties of electrodeposition Ni-Fe alloy films", Journal of Alloys and Compounds 136, (2005), 43-46.
- 7- S.Z.Hosseini,A.Irajizad,A.Morteza ali, **R.ghasempour**, " *Study the effect of Al₂O₃ and Quartz substrate on the ZnO nanostructures by vapour phase transport method without catalyst or buffer layer*", Submitted.
- 8- **R.Ghasempour**, A.Irajizad, "The effect of Pd on hydrogen sensing of WO₃/MWNTs hybrid thin film", under preparation.
- 9- **R.Ghasempour**, A.Irajizad, "P-type behavior of Pd doped WO₃/MWNTs hybrid thin film", under preparation.
- 10- **R.Ghasempour**, A.Irajizad, "SnO₂-Graphene hybrid thin film for Hydrogen sulfide sensing ", under preparation.
- 11- M.Alopour,S.Ghasempour,R.ghasempour,..., " *The effect of Urea coated Iron Oxide Nanorods on Physiology of Cell-life cycle* ", under preparation.
- 12- S.Z.Hosseini, **R.ghasempour**, A.Irajizad, A.Mortezali," *Investigation of Hydrogen sulfide sensing properties of ZnO nanorods*", under preparation.
- 13- M.Alipour, M.A. Shokrgozar, S.Ghasempour, **R.ghasempour**, *The effect of Urea and PEG coated Iron Oxide Nanoparticles on Viability of fibroblast cell of rat* ",Journal of Research (Zanjan) , 2013, Impress , Zanjan, Iran.
- 14- M.Alipour, M.A. Shokrgozar, S.Ghasempour, **R.ghasempour**, *Investigation of toxicity of Iron Oxide nanorods on L929 fibroblast cell of rat*, Journal of Research (Isfahan) , 2013, Submitted , Isfahan, Iran.

- 15- **R.Ghasempour**, A.Irajizad, "Investigation of hydrogen storage properties of Pd/MWNTs", 4th international conference on Ultrafine Grained and Nanostructured Materials, 2013, Tehran, Iran
- 16- S.Z.Hosseini, A.Irajizad, A.Morteza ali, **R.ghasempour**, "Study and investigation of Hydrogen Sulfide sensors based on ZnO microstructures" ,Annual Physics conference of Iran, 2013, Birjand , Iran
- 17- M.Alipour, M.A. Shokrgozar, S.Ghasempour, **R.ghasempour**, "Effects of Urea coated nanoparticles of Iron Oxide on L929 cell and study biochemical and pathological parameter in rat liver and kidney cell ", 21st Iranian congress of physiology and pharmacology, 2013, Tabriz , Iran
- 18- **R. Ghasempour**, A Irajizad, "Palladium modified hybrid thin film as hydrogen sensors", International Conference of Nanostructure NS2012, (March 2012), Kish, Iran.
- 19- A Irajizad, **R.Ghasempour**, "Hydrogen sensor based on MWNTs/WO₃", Proceeding of the 10th Annual IEEE Conference on Sensors, Sensors 2011, (2011), Ireland.
- 20- **R. Ghasempour**, A. Irajizad, "Palladium modified hybrid thin film as hydrogen sensors", Submitted in 4nd International Conference of Nanostructure NS2012, (March 2012), Kish, Iran.
- 21- **R.Ghasempour**, A.Irajizad, "Fabrication hydrogen sensor based on MWNTs/WO₃", Iranian Scientific Journal of Nano world, Article in press.
- 22- **R.Ghasempour**, A.Irajizad, "Study of hydrogen sensing properties of MWNTs/WO₃ thin film", Iranian Scientific Journal of physics research, under revision.
- 23- **R.Ghasempour**, A Irajizad, "Hydrogen Sensitivity of Pure and MWNTs/WO₃ hybrid films", Proceeding of 3rd International Conference of Nanostructure NS2010, (March 2010), Kish, Iran.
- 24- M. Heydari, **R. Ghasempour**, "Sonication effect on physical properties of functionalized multi-walled carbon nanotubes", Proceeding of 3rd International Conference of Nanostructure NS2010, (March 2010), Kish, Iran.
- 25- **R.Ghasempour**, A.Irajizad, N.Taghavinai, S.Fardin doust, M.R.Hormozinezhad, "Hybrid Nanocomposite of WO₃/MWCNTs as Gas Sensors", Proceeding of 1st International Conference on Functional, Hybrid and Nanomaterials, (March 2009), Tours, France.
- 26- **Roghayeh Ghasempour**, Azam Irajizad, "Hydrogen sensing of hybrid nanocomposite of WO₃/MWCNTs", Accepted in Nanotech Insight 2009 (March 2009), Spain.
- 27- Azam Irajizad, **Roghayeh Ghasempour**, "Hydrogen sensing of MWNTs/WO₃ hybrid film", Accepted in the 8th Annual IEEE Conference on Sensors, Sensors 2009, (2009), Newzealand.
- 28- **Ghasempour Roghayeh**, Irajizad Azam , Fardindoost Somayye, "Synthesis of multiwalled carbon nanotubes hybridized with WO₃ nanoparticles", Accepted in 2nd International Conference of Advanced Nanomaterials-ANM2008, (2008), Portugal.
- 29- **Ghasempour Roghayeh**, Irajizad Azam, Fardindoost Somayye, "A simple method to prepare WO₃- MWNTs hybrid", Accepted in International Conference of 1st International Conference from Nanoparticles & Nanomaterials & Nanodevice & Nanosystems- IC4N2008, (2008), Greece.
- 30- **R.Ghasempour**, A.Irajizad, S.Fardin doust, N.Taghavi nia, M.R. Hormozi nezhad, "Synthesis of multiwalled carbon nanotubes hybridized with WO₃ nanoparticles",

- Proceeding of 2nd International congress on NanoScience and NanoTechnology (ICNN 2008), Tarbriz, Iran.
- 31- **R. Ghasempour**, A. Irajizad, "Carbon Nanotube/Polymer Film for Acetone Vapour Detection", Proceeding of the 2nd International Conference of Nanostructure NS2008, (March 2008), Kish, Iran.
 - 32- Mortazavi S Z, **Ghasempour R**, Rahimi F, Irajizad A, "Growth and characterization of MWNTs as a hydrogen sensor" 1st Conference of Nanotechnology in South of Iran, (2006), Shiraz, Iran.
 - 33- A. Irajizad, D. Abbaszadeh, **R. Ghasempour**, F. Rahimi, "Synthesize and characterization Of Methane Gas sensor by Sol-Gel process", proceeding of the 1st International Conference of Nanostructure NS2005, (March 2005), Kish, Iran.
 - 34- **Ghasempour Roghayeh**, Taghavinai Nima, Irajizad Azam, Mhdavi S. Mohamad, "Study of TiO₂ thin film prepared by Sol-Gel method", Physics Conference of Iran, (2004), Tehran, Iran.
 - 35- Irajizad Azam, Abbaszadeh Davood, **Ghasempour Roghayeh**, "Study and Characterization Methane Gas Sensor Fabricated by Sol-gel Process", 7th Condensed Matter Conference, (2005), Tehran, Iran.
 - 36- Azam Irajizad, Mohammad Ghorbani, **Roghayeh Ghasempour**, Abolghasem Dolati, Ali Ranjbar, "Effect of Cr and Mo impurity on magnetic resistance of Ni_xFe_{1-x}/ITO/Glass (x=78-82%) prepared by electrochemical method," Condensed matter Conference, (2003), Zanjan, Iran.
 - 37- Azam Irajizad, Abdollah Morteza Ali, Roghayeh Ghasempour, "Study of magnetoresistance in (Co/Ag)_n multilayer" 8th of Condensed Matter Conference, (2005), Tehran, Iran.

Research Interests

- Synthesize and characterization of metallic, metal oxides and carbon based nanostructures
- Application of nanostructures in :
 - Renewable Energy Production, Conversion and Storage Especially Hydrogen Energy
 - NanoSensors and Actuators, Hybrid Structures
 - Supercapacitor and Li ion battery
 - Fuel Cells
 - Solar Cells
 - OLEDs and PLEDs Diodes
 - Environmental Engineering

Personal Experiences

- **Teaching experience**
 - Nanotechnology (synthesize, Characterization, Carbon Nanotubes), Modern Physics, Optics, General physics I&II, Optics & laser lab, Surface physics and Thin film's research lab

- **Research Activities/projects**

- o Study of magnetoresistance of magnetic multilayer.
- o Investigation of magnetoresistance of Permalloy, binary and ternary of permalloy.
- o Synthesize of TiO₂ nanoparticles by Sol-Gel method.
- o Synthesize and characterization of SnO₂ thin film as Methane gas sensors application.
- o Synthesize and characterization of WO₃ thin film as Hydrogen gas sensors application.
- o Investigation of hydrogen and inorganic gas sensing of multi-walled carbon nanotubes.
- o Synthesize and fabrication of gas sensor based on metal oxide/carbon nanotubes systems.
- o Synthesize and characterization of supercapacitor based on graphene and metal oxide hybrids.
- o Synthesize and characterization of gas sensor based on metal oxide/graphene nanocomposite.
- o Optimization of Geothermal pump efficiency that utility of nanofluid.
- o Investigation and Optimization of solar flat panel collector efficiency that utilizes nanofluids.

- **Other Activities**

- o Cooperating with ONS Group (Optic, Nano and Surface) in Surface Physics Lab, Department of Physics, Sharif University of Technology and also INST Group (Institute for Nanoscience and Nanotechnology), Sharif University of Technology
- o Referee in Journal of Nanotechnology (IOP Publishing).
- o Member of executive Committee of International Conference of NanoStructure , ICNS4 2012 (INST & SUT).

Skills

- **Experimental Skills**

- o Design the gas sensing system (Dynamic and Static Methods for environmental and hazardous gas like H₂S).
- o Familiar to PVD, e-gun, Sputtering, Sol-Gel, Laser ablation, CVD, CVS, Electroless, Electrodeposition, Chemical Etching, Wet Chemical Methods for Deposition of Thin film, making Porous Media, Nanoparticles, Nanotubes.
- o Familiar to TEM, SEM, XRD, Raman, UV-Vis, FTIR, XPS, AFM , Particle size Analyzer characterization methods.
- o Erudite in teaching subject Nanotechnology like synthesize and Characterization of Nanostructure.
- o Interested in team working, experimentally researching, and writing various journal & conference publications, technical reports, industrial proposals and documentation.