

Summary

- Materials Science Engineer
- Educated and experienced in Materials science, Nanomaterials, Nanofabrication and characterization, Electrochemical Biosensor, 2D materials, Hybrid Nanomaterials, Design of Experiment (DOE), Electrochemical Measurements, Electrophoretic Deposition, Chemical Vapor Deposition (CVD), Lithography, Photovoltaics

Education

Sep 2013- Present	Bachelor of Science	Materials Science and Engineering Sharif University of Technology The first rank engineering university in Iran	GPA: Last 5 semesters: 3.82 Overall: 3.11
Sep 2016- Present	Minor Degree	Chemistry Sharif University of Technology The first rank engineering university in Iran	GPA: 4
Sep 2009- Jun 2013	Diploma	Mathematics & Physics National Organization for Development of Exceptional Talents (NODET), Allameh Helli Tehran High School, Iran	GPA: 3.96

Research Activities

Cooperated projects:

- 1) Low Temperature graphene growth on Ni Arrays by CVD technique**
Prof. A. Simchi, Dr. E.Rezvanie, Dr. M. Berahman Sharif University of Technology Oct 2016-Present
- 2) Fabrication of porous Pt/Ag core-shell electrode**
Prof. A. Simchi, A.Mahmoodi Sharif University of Technology Sep 2016-Nov 2016
Duties: Fabrication and deposition of Ag₂O particles on platinum wire by electrophoretic process
- 3) Design and Fabrication of High Vacuum Thermal Evaporator**
Prof. A. Simchi, Dr. A. Afshar Farniya Sharif University of Technology Oct 2016-Present
Duties: Basic design of the system
- 4) Study of Synthesis Parameters for optimizing properties of PE/Ademantane Composite by DOE technique**
Prof. R. Noorossana, F. Falahat Iran University of Science and Technology Oct 2012
Duties: Molecular Simulation with HyperChem

Honors and Awards

- Ranked in the top one percent of Iranian Nation-Wide University Entrance Exam Jun 2013
- Ranked 15th among all Material Science and Engineering students, Sharif University of Technology Sep 2017
- 2nd Place, First International Nanotechnology Festival-Student Nano Club, Tehran, Iran Oct 2011
- Semifinalist in Iran National Chemistry Olympiad for two years Jun 2011, Jun 2012
- Member of National Organization for Development of Exceptional Talents (NODET), Iran Sep 2009- Jun 2013

Publication

- "Low Temperature graphene growth on Ni arrays by CVD technique and its applications in gas sensing", A. Sedighian, E. Rezvani, M. Berahman, A. Simchi, **Under preparation**
- "A novel chemical vapor deposition method for synthesis of 3D graphene structure", E. Rezvani, A. Sedighian Rasouli, A. Simchi, **Under preparation**
- "Three-dimensional Ni/ gold nanoparticles hybrid networks as a novel nanoporous electrocatalyst for electrocatalytic oxidation of ethanol in alkaline media", A. Hatamie, E Rezvani, A. Sedighian Rasouli, A. Simchi, *Electrochimica Acta*, **Submitted**
- "Synergetic effect of nickel morphology and graphene oxide nanosheets on the electrochemical oxidation of glucose", A. Mohammadzadeh, H. Ghanbari, M. Mazaheri, A. Sedighian Rasouli, A. Simchi, **To be submitted**

Interests and Objectives

Biorecognition systems, Electrochemistry of Nanomaterials, Lab-on-Chips, Nanoelectronics, Synthesis and Characterization of 3D Nanostructures, Graphene-based materials, Bio-Nanomaterials, Bioengineering, Hybrid Nanostructured materials, Nanofabrication, Biopolymers, Composites, Batteries, Solar cells, Colloidal Quantum Dots.

Seminars and Workshops

Seminars:

- **Third PAM International School on Applications of Nanomaterials on Medicine,**
Department of Physics, Sharif University of Technology, Tehran, Iran 2-4 Nov 2016
Member of Executive Committee
- **Stem Cell and Regeneration Nanotechnology Seminar**
Imam Khomeini Hospital, Tehran, Iran Apr 2015

Workshops:

- **Science and Technology of Nanomaterials Workshop**
Sharif University of Technology, Tehran, Iran Apr 2015
- **Chemical Methods of Nanomaterial Synthesis (1 & 2)**
Sharif University of Technology, Tehran, Iran 19th Apr 2016
- **XRD Data Analysis with X'Pert HighScore Software**
Sharif University of Technology, Tehran, Iran 7th June 2016
- **Introduction to COMSOL Multiphysics Software**
Sharif University of Technology, Tehran, Iran Aug 2016
- **Introduction to IR Spectroscopy and Applications**
Iran's 9th Nanotechnology Festival, Tehran, Iran 5-7 Oct 2016
- **Introduction to BET Method for measuring of the specific surface area of materials**
Iran's 9th Nanotechnology Festival, Tehran, Iran 5-7 Oct 2016

Professional Experience

Intern	Deghat Plast Co. Tehran, Iran Plastic products manufacturer company website: http://www.deghatplast.com	Jun 2016-Sep 2016
Instructor	Chemistry Olympiad - Allame Helli High School	Sep 2012-May 2013

Skills

- Design, Execution and Analysis of experiments
- Nanofabrication and characterization
- Electrochemical measurements: Cyclic Voltammetry, Chronoamperometry, and Electrochemical Impedance Spectroscopy (EIS)
- Spectroscopy measurements: Atomic Absorption Spectroscopy (AAS), UV-Vis Spectroscopy, Fourier-Transform Infrared Spectroscopy (FT-IR), X-ray Photoelectron Spectroscopy (XPS)
- Chemical Vapor Deposition (CVD): Graphene growth (LPCVD, APCVD and PECVD)
- Characterization: Field Emission-Scanning Electron Microscopy (FE-SEM), X-ray Diffraction (XRD), X-Ray Fluorescence (XRF), Raman Spectroscopy, Transmission Electron Microscopy (TEM)
- Design of experiment (DOE) based on Taguchi method

Computer skills

- Engineering: Nova Autolab, X'pert Highscore, MATLAB, Autocad, OriginPro, HyperChem, Design Expert, COMSOL Multiphysics
- Programming: C++, Python, MATLAB

Selected Academic Courses

- Crystallography and Diffraction	17.5/20 (4/4)	Ranked 3 rd
- Electronic Properties of Materials	18/20 (4/4)	Ranked 2 nd
- Principles of Polymer Engineering	20/20 (4/4)	Ranked 1 st
- Transport Phenomena	20/20 (4/4)	Ranked 1 st
- Introduction to Programming	20/20 (4/4)	Ranked 1 st
- Material Characterization Techniques 1	19/20 (4/4)	Ranked 1 st
- Composites	20/20 (4/4)	Ranked 1 st
- Analytical Chemistry 1	20/20 (4/4)	Ranked 1 st
- Organic Chemistry 1	20/20 (4/4)	Ranked 1 st

Language Capabilities

Persian (Farsi): Native

English: Fluent (TOEFL: 101 R:29 L:25 S:24 W:23)

Azeri Turkish: Basic

Arabic: Basic

Hobbies

Playing tennis, swimming, planting, listening to music, taking part in social activities.