

## **Samira Naghdi**

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Google scholar: <https://scholar.google.com/citations?user=v8CNYaQAAAAJ&hl=en>

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### **Education**

❖ **Ph.D. in atomic and molecular physics** **09/2012-06/2016**

Bu-Ali Sina University, Hamedan, Iran

Supervisor: Dr. Babak Jaleh

Thesis: “Synthesis, characterization and deposition of graphene oxide and graphene oxide-TiO<sub>2</sub> nanocomposite by electrophoretic deposition method on Al, Cu metallic substrates and investigation of surface properties and their application”.

❖ **M.Sc. in atomic and molecular physics** **09/2007-01/2010**

Science and research branch of Tehran Azad University, Tehran, Iran

Supervisor: Dr. Davoud Dorrani

Thesis: “Effect of UV radiation on the topological and optical properties of PMMA polymer”.

❖ **B.Sc. in physics** **09/2003-06/2007**

Bu-Ali Sina University, Hamedan, Iran

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### **Awards and honors**

**Outstanding graduate Ph.D. student** of Physics department at Bu Ali Sina University, Hamedan, Iran (2016).

**Selected for the best oral presentation** at the 1<sup>st</sup> National congress of applied physics, Shoshtar, Iran (2012)

### **Grants**

**Winner of grant** from National Research Foundation of Korea (NRF) funded by the Ministry of Education, Science and Technology (Project number: 2016R1A2B4016034), amount funded: 200,000 USD (2016).

### **Patents**

Kyong Yop Rhee, **Samira Naghdi**, Sang Woo Lee, 2017, Method of manufacturing graphene-coated metal plate, KOREAN INTELLECTUAL PROPERTY OFFICE: 10-1880963, filed 05/01/2017, and issued 17/07/2018.

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## Professional Experiences

### Postdoctoral researcher:

**06/2018-present**

Bioengineering and Aerospace Engineering Department, University of Carlos III de Madrid, Madrid, Spain

**07/2016-07/2017**

Nanocomposite laboratory, Mechanical department, Kyung Hee University, Suwon, South Korea

### Visiting student:

**01/2015-01/2016**

Nanocomposite laboratory, Mechanical department, Kyung Hee University, Suwon, South Korea

### Teaching experience:

**09/2012-01/2015**

Instructure for fundamental physics, Department of Physics, Bu-Ali Sina university, Iran

**01/2010-08/2012**

Instructor for fundamental Physics, department of Physics, Azad University, Dezful, Iran  
Instructor for fundamental Physics, department of Engineering, Sama University, Dezful, Iran  
Instructor for fundamental Physics, department of Engineering, Payam Nor University, Dezful, Iran

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## Publications

- ❖ **Samira Naghdi**, Kyong Yop Rhee, David Hui, Soo Jin Park, A Review of Conductive Metal Nanomaterials as Conductive, Transparent, and Flexible Coatings, Thin Films, and Conductive Fillers: Different Deposition Methods and Applications, *Coatings*, 8 (2018) 278-305.
- ❖ **Samira Naghdi**, Kyong Yop Rhee, Soo Jin Park, Transfer-free chemical vapor deposition of graphene on silicon substrate at atmospheric pressure: a sacrificial catalyst, *Thin Solid Films*, 657 (2018) 55-60.
- ❖ **Samira Naghdi**, Mohaddeseh Sajjadi, Mahmoud Nasrollahzadeh, Kyong Yop Rhee, S. Mohammad Sajadi, and Babak Jaleh, *Cuscuta reflexa* leaf extract mediated green synthesis of the Cu nanoparticles on graphene oxide/manganese dioxide nanocomposite and its catalytic activity toward reduction of nitroarenes and organic dyes, *Journal of the Taiwan Institute of Chemical Engineers*, 86 (2018) 158-173.
- ❖ **Samira Naghdi**, Kyong Yop Rhee, Soo Jin Park, A catalytic, catalyst-free, and roll-to-roll production of graphene via chemical vapor deposition: Low temperature growth, *Carbon*, 127 (2018) 1-12.

- ❖ **Samira Naghdi**, Katarina Nesovic, Vesna Miskovic-Stankovic, Kyong Yop Rhee, Comprehensive electrochemical study on corrosion stability of graphene coatings deposited by chemical vapour deposition at atmospheric pressure on platinum-coated molybdenum foil, *Corrosion Science*, 130 (2018) 31-44.
  - ❖ **Samira Naghdi**, Kyong Yop Rhee, Soo Jin Park, Shape-dependent magnetic properties and phase transformation of annealed iron oxide nanoparticles, *JOM* 69.8 (2017) 1415-1421.
  - ❖ **Samira Naghdi**, Kyong Yop Rhee, Soo Jin Park, Oxidation resistance of graphene-coated molybdenum: Effects of pre-washing and hydrogen flow rate, *International Journal of Refractory Metals and Hard Materials* 65 (2017) 29-33.
  - ❖ **Samira Naghdi**, Ivana Jevremovic, Vesna Miskovic-Stankovic, Kyong Yop Rhee, Chemical vapour deposition at atmospheric pressure of graphene on molybdenum foil: Effect of annealing time on characteristics and corrosion stability of graphene coatings, *Corrosion Science* 113 (2016) 116-125.
  - ❖ **Samira Naghdi**, Kyong Yop Rhee, Man Tae Kim, Babak Jaleh, Soo Jin Park, Atmospheric chemical vapor deposition of graphene on molybdenum foil at different growth temperatures, *Carbon Letters* 18 (2016) 37-42.
  - ❖ **Samira Naghdi**, Babak Jaleh, Nima Shahbazi, Reversible wettability conversion of electrodeposited graphene oxide/titania nanocomposite coating: investigation of surface structures, *Applied Surface Science* 368 (2016) 409-416.
  - ❖ **Samira Naghdi**, Kyong Yop Rhee, Babak Jaleh, Soo Jin Park, Altering the structure and properties of iron oxide nanoparticles and graphene oxide/iron oxide composites by urea, *Applied Surface Science* 364 (2016) 686-693.
  - ❖ **Samira Naghdi**, Babak Jaleh, Ali Ehsani, Electrophoretic Deposition of Graphene Oxide on Aluminum: Characterization, Low Thermal Annealing, Surface and Anticorrosive Properties, *Bulletin of the chemical society of Japan*, 88.5 (2015) 722-728.
  - ❖ **Samira Naghdi**, Davoud Dorrnian, Investigation on structure and optical properties of poly methyl methacrylate (PMMA) and modification of them by UV treatment, *Iranian Journal of science*, 5 (2011) 35-47.
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### **Presentations/Conferences**

- ❖ **Samira Naghdi**, Gonzalo Sanchez- Arriaga, Kyong Yop Rhee, Antireflection performance of graphene directly deposited on silicon substrate by the APCVD method, Graphene Week 2018- the Graphene Flagship International Conference, San Sebastian, Spain (2018), Poster presentation.
- ❖ **Samira Naghdi**, Kyong Yop Rhee, Soo Jin Park, Influence of calcination upon the morphology and magnetic properties of Fe<sub>2</sub>O<sub>3</sub> nanoparticles, The 14<sup>th</sup> international conference on nano science and nano technology (ICNTS 2016), Muan, South Korea (2016), Poster presentation.
- ❖ **Samira Naghdi**, Kyong Yop Rhee, Effect of calcination on the magnetic properties and morphology of the Fe<sub>2</sub>O<sub>3</sub> nanoparticles with different shapes, 14<sup>th</sup> international symposium on novel and nano material, Budapest, Hungary (2016), Poster presentation.

- ❖ Ivana Jevremović, **Samira Naghdi**, Kyong Yop Rhee, Vesna Mišković-Stanković, Corrosion stability of graphene coatings on metallic substrates, The 8<sup>th</sup> Annual conference ,YUCOMAT, Serbia (2016), Poster presentation.
  - ❖ **Samira Naghdi**, Kyong Yop Rhee, The effect of urea on structure and optical properties of reduced graphene oxide/Fe<sub>2</sub>O<sub>3</sub>, International Conference on Hybrid Materials, ICHM 2015, South Korea (2015), Oral presentation.
  - ❖ **Samira Naghdi**, Investigation of the transmittance and reflection spectra of UV-radiated PMMA thin film, International conference of oil, gas, petrochemical and power plant, Tehran, Iran (2012), Poster presentation.
  - ❖ **Samira Naghdi**, Effect of UV radiation on surface structure and wettability of PMMA thin film, 1<sup>st</sup> National congress of applied physics, Shoshtar, Iran (2012), oral presentation.
  - ❖ **Samira Naghdi**, Effect of UV radiation on refractive index and band gap energy of PMMA thin film, 1<sup>st</sup> National conference of modern research in applied chemistry, Quchan, Iran (2011), Poster presentation.
  - ❖ **Samira Naghdi**, Davoud Dorrnian, Effect of UV radiation on topology and optical properties of PMMA, Regional conference of chemistry and industry, Damghan, Iran (2009), Poster presentation.
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### **Research Experiences**

- Manufacture of polymer composite thin film (by spin coating, dip coating, casting ...)
  - Investigation on the effect of UV and heat treatment on polymer composite and nano composite
  - Chemical vapor deposition of graphene on copper, molybdenum, platinum and silicon wafer
  - Electrophoretic deposition of graphene and graphene-based nanocomposite on metal surfaces (Cu, Al, and carbon steel)
  - Synthesis of graphene-based nanocomposite (GO/Fe<sub>2</sub>O<sub>3</sub>, GO/MnO<sub>2</sub>, GO/WO<sub>3</sub>) for catalyst application
  - Experienced in material characterization techniques: XRD, XPS, FE-SEM and EDS, TEM, AFM, FT-Raman, FT-IR, UV-Visible spectroscopy, TGA, BET, VSM, WCA, Sheet resistance
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### **Research interests**

- Finding new approaches for low temperature chemical vapor deposition of graphene
  - Synthesis graphene-based nanocomposites for catalytic applications
  - Synthesis N-doped graphene for biosensors and solar cells application
  - Synthesis and application of 2D materials
  - Synthesis and application of quantum dots
  - Surface modification by using nanomaterials
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## References

**1. Prof. Kyong Yop Rhee**

Department of Mechanical Engineering, College of Engineering, Kyung Hee University,  
Yongin 17104, South Korea

**Email:** [rheeky@khu.ac.ir](mailto:rheeky@khu.ac.ir)

**2. Prof. Vesna Miskovic-Stankovic**

Faculty of Technology and Metallurgy, University of Belgrade, Karnegijeva 4, 11000  
Belgrade, Serbia

**Email:** [vesna@tmf.bg.ac.rs](mailto:vesna@tmf.bg.ac.rs)

**3. Dr. Babak Jaleh**

Department of Physics, Bu-Ali Sina University, Hamedan 65174, Iran

**Email:** [jaleh@basu.ac.ir](mailto:jaleh@basu.ac.ir)

**4. Dr. Gonzalo Sanchez Arriaga**

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