

Seyed Iman Hosseini

Contact Information

Associate Professor

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Faculty of Physics

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Shahrood University of Technology

Nationality: Iranian Year of Birth: 1981

Shahrood, Iran

Research Interests

Application of Non-thermal Plasma in Plasma Chemistry, Cell Biology, Water Treatment, Food Processing, Material Treatment, Thin Film Deposition, Plasma Enhanced Chemical Vapor Deposition (PECVD)

Positions & Academic Background

2021- Present

Associate professor, Faculty of Physics, Shahrood University of Technology, Shahrood, Iran

2013 - 2021

Assistant professor, Faculty of Physics, Shahrood University of Technology, Shahrood, Iran

- 2007 - 2013 **Ph.D. in Photonics**, Shahid Beheshti University, Tehran, Iran
2004 - 2007 **M.Sc. in Photonics**, Shahid Beheshti University, Tehran, Iran
1999 - 2003 **B.Sc. in Physics**, Shahid Beheshti University, Tehran, Iran

Professional Experience

- Experimental Design and manufacturing of Plasma Enhanced Chemical Vapor Deposition (PECVD) system
- Experimental Design and manufacturing of Non-thermal atmospheric plasma system
- Programming Fortran

Teaching Experience

2013 – Present Shahrood University of Technology

Lecturer **Ph.D. Students:** Gas Discharges

Lecturer **M.Sc. Students:** Industrial Plasma Engineering, Advanced Plasma Physics, Optical Thin films, Computational Physics

Lecturer **B.Sc. Students:** Physics of Plasma, Electromagnetics (I, II), Vacuum Techniques, Physics (I, II, III)

Academic Merits

2018 Distinguished Professor, Faculty of Physics, Shahrood University of Technology

2016 Distinguished Professor, Faculty of Physics, Shahrood University of Technology

2007 Summa Cum Laude Student in Master Level

2007 Master with Honor, (Getting full mark for the thesis research: 20 out of 20)

Research Grants

2016 Iran National Science Foundation:
The Effects of Cold Atmospheric Pressure Plasma on Diabetic Wound Healing

2014 Iran National Science Foundation:
Plasma regeneration of catalysts used in petrochemical industry

Supervisory Duties

- M.Sc. Thesis **Studying the addition of metallic impurities on the optical and structural properties of carbon-amorphous films by magnetron sputtering**
- M.Sc. Thesis **Effect of cold plasma treatment on physical and chemical properties of two dimensional MXene**
- M.Sc. Thesis **Studying the ability of plasma on sterilization of saffron in packing and its effect on the main chemical compounds of saffron**
- M.Sc. Thesis **Comparative study on the effects of gliding arc and DBD plasmas on the structural, chemical and physical properties of leather**
- M.Sc. Thesis **Sterilization and antibacterial efficacy of packed potato chips using DBD cold plasma**
- M.Sc. Thesis **Investigation the effect of cold atmospheric plasma jet parameters on the breast cancer cells**
- M.Sc. Thesis **Studying the effects of plasma produced species on the structure of diamond-like carbon films deposited by direct current unbalanced magnetron sputtering**

M.Sc. Thesis **Experimental and theoretical measurement of electron temperature in DC glow discharge plasma using optical emission spectroscopy**

Advisory Duties

M.Sc. Thesis **Fabrication and characterization of A Flexible Dermal Patch for on Demand Topical Drug Delivery on to the Wound Bed Using Thermo responsive Microfluidics: in vitro and in vivo stud**

Scientific and Technological Impact of Research

Publications

- 1- Yoosefi, L., Setoodeh, V. & **Hosseini, S.I. (2021)**. Protective effect of a diamond-like carbon film on cobalt-based magnetoimpedance sensors in the Presence of Moisturized air. **Thin Solid Films**, (In Press).
- 2- Khani, M. R., Pour, E. B., Rashnoo, S., Tu, X., Ghobadian, B., Shokri, B., ... & **Hosseini, S. I. (2020)**. Real diesel engine exhaust emission control: indirect non-thermal plasma and comparison to direct plasma for NO X, THC, CO, and CO 2. **Journal of Environmental Health Science and Engineering**, 18(2), 743-754.
- 3- Abadi, S. K. N., **Hosseini, S. I.**, Momeni, M., & Khaksaran, H. (2019). Studying the effects of plasma produced species on the optical characteristics and bonding structure of diamond-like carbon films deposited by direct current unbalanced magnetron sputtering. **Materials Chemistry and Physics**, 229, 348-354.

- 4- **Hosseini, S. I.**, Farrokhi, N., Shokri, K., Khani, M. R., & Shokri, B. (2018). Cold low pressure O₂ plasma treatment of *Crocus sativus*: An efficient way to eliminate toxicogenic fungi with minor effect on molecular and cellular properties of saffron. **Food chemistry**, 257, 310-315.

- 5- **Hosseini, S. I.**, Mohsenimehr, S., Hadian, J., Ghorbanpour, M., & Shokri, B. (2018). Physico-chemical induced modification of seed germination and early development in artichoke (*Cynara scolymus* L.) using low energy plasma technology. **Physics of Plasmas**, 25(1), 013525.

- 6- **Hosseini, S. I.**, Javaherian, Z., Minai-Tehrani, D., Ghasemi, R., Ghaempanah, Z., Firouzjah, M. A., & Shokri, B. (2017). Antibacterial properties of fluorinated diamond-like carbon films deposited by direct and remote plasma. **Materials Letters**, 188, 84-87.

- 7- Ghafouri, S., Abdijahed, S., Farivar, S., **Hosseini, S. I.**, Rezaei, F., Ardeshirylajimi, A., & Shokri, B. (2017). Study on Physio-chemical Properties of plasma polymerization in C₂H₂/N₂ plasma and Their Impact on COL X. **Scientific reports**, 7(1), 9149.

- 8- HafezKhiabani, N., Fathi, S., Shokri, B., & **Hosseini, S. I.** (2015). A novel method for decoking of Pt–Sn/Al₂O₃ in the naphtha reforming process using RF and pin-to-plate DBD plasma systems. **Applied Catalysis A: General**, 493, 8-16.

- 9- Shariat, M., **Hosseini, S. I.**, Shokri, B., & Neyts, E. C. (2013). Plasma enhanced growth of single walled carbon nanotubes at low temperature: A reactive molecular dynamics simulation. **Carbon**, 65, 269-276.

- 10- Abbasi-Firouzjah, M., **Hosseini, S. I.**, Shariat, M., & Shokri, B. (2013). The effect of TEOS plasma parameters on the silicon dioxide deposition mechanisms. **Journal of Non-Crystalline Solids**, 368, 86-92.

- 11- Rajabi, M., Ghassami, A. R., Firouzjah, M. A., **Hosseini, S. I.**, & Shokri, B. (2013). Electroluminescence and photoluminescence of conjugated polymer films prepared by plasma enhanced chemical vapor deposition of naphthalene. **Plasma Chemistry and Plasma Processing**, 33(4), 817-826.

- 12- Setoodeh, V., **Hosseini, S. I.**, Ghanaatshoar, M., & Shokri, B. (2013). Optical exchange spring effect in RF-annealed Fe-based amorphous ribbons. **Physica B: Condensed Matter**, 408, 39-42.

- 13- Setoodeh, V., **Hosseini, S. I.**, Ghanaatshoar, M., & Shokri, B. (2013). Exchange Spring Effect in RF-Annealed Amorphous Co 55 Fe 25 B 10 Si 10 Ribbons. **Journal of superconductivity and novel magnetism**, 26(5), 1687-1690.

- 14- **Hosseini, S. I.**, Sharifian, M., & Shokri, B. (2012). Single and dual-mode plasma enhanced chemical vapor deposition of fluorinated diamond-like carbon films. **Surface and Coatings Technology**, 213, 285-290.

- 15- Kroushawi, F., Latifi, H., **Hosseini, S. I.**, Firuzjah, M. A., & Shokri, B. (2012). Study on the Hydrogenated Diamond-Like Carbon Films Synthesized by RF-PECVD from n-decane. **Journal of fusion energy**, 31(6), 581-585.

- 16- **Hosseini, S. I.**, Shokri, B., Firouzjah, M. A., Kooshki, S., & Sharifian, M. (2011). Investigation of the properties of diamond-like carbon thin films deposited by single and dual-mode plasma enhanced chemical vapor deposition. **Thin Solid Films**, 519(10), 3090-3094.

- 17- Khani, M. R., Barzoki, S. H. R., Yaghmaee, M. S., **Hosseini, S. I.**, Shariat, M., Shokri, B., ... & Ghaedian, M. (2011). Investigation of cracking by cylindrical dielectric barrier discharge reactor on the n-hexadecane as a model compound. **IEEE Transactions on Plasma Science**, 39(9), 1807-1813.
- 18- Shokri, B., **Hosseini, S. I.**, & Sharifian, M. (2008). Surface Modification of Silicone Rubber Membrane by Microwave Discharge to Improve Biocompatibility. **Iranian Journal of Pharmaceutical Sciences**, 4(1), 45-50.
- 19- Shokri, B., **Hosseini, S. I.**, Yaghmaee, M. S., & Sharifian, M. (2007). Nanosized Diamond Deposition via Plasma Medium. **Plasma Processes and Polymers**, 4(S1) : S273 - S277.