Personal Details:

First name: *Fatemeh (Mrs.)*

Surname: *Shariatmadar Tehrani*

Tel: *0098-(0)23-31533290*
Email: *f_tehrani@semnan.ac.ir*
Work Address: Faculty of physics, Semnan University, P.O. Box 35195-363, Semnan, Iran
Position*: Associate professor of Physics*
Homepage: *https://ftehrani.profile.semnan.ac.ir/*

Academic Qualification:

2009-2013 Ph.D.

Solid state Physics, Low Dimensional Material Research Center (LDMRC), University of Malaya (UM), Kuala Lumpur, Malaysia

Title of PhD thesis:

Hot-wire chemical vapour deposition of silicon carbide thin films from pure silane and methane gases

Supervisor: *Prof. Saadah Abdul Rahman*
University of Malaya, Malaysia

2004-2006 M.Sc.

Solid state Physics
Shahrood University of Technology, Shahrood, Iran.

Average Mark: 17.82 out of 20.

Project: *Electrical transport properties of dilute nitride semiconductors (GaAsN)*

Supervisor: *Dr Hossein Eshghi.*
Shahrood University of Technology, Shahrood, Iran.

1999-2003 B.Sc.

Solid State Physics.
Shahrood University of Technology, Shahrood, Iran.

Average Mark: *17.43 out of 20.*

Work Experience:

- Teaching physics in **Shahrood University of technology, Iran**
- Teaching Physics and mathematics in **Fanni Hefehee University** in Shahrood, Iran
- Teaching various courses (Science, Physics, ..) in **High school** in Iran and In Malaysia (Iranian school)
- Research Assistant in UM (under Prof Saadah Abd Rahman), Kuala Lumpur, Malaysia
- Associate professor in Faculty of Physics, Semnan University, Iran

Skills and Training

- Computer skills: able to work with some software: **Sigma plot** (to draw the plot of results in experiments and fitting), **MathCAD, Origin** (to analyze the data from experiments), writing program in: **Maple8, Pascal, C**, ...
- Data analysis using **X'pert highscore, FULLPROF, Digimizer, ..**
- Attendance in **Optic and laser education** in Zanjan University and pass some courses and lab work there.
- Contribution in **15th International School on Condensed Matter Physics (Varna 2008).**

Research interests:

- Semiconductor thin films (Si-based materials, SiC)
- Chemical vapor deposition
- Optical and structural properties

- Nanostructures
- Metal oxide nanostructures
- Metal-organic frameworks
- Gas sensors
- Photocatalytic applications

Publications

1. Hazrati Saadabadi, R., Shariatmadar Tehrani, F., Darroudi, M., Sabouri, Z., ***Plant-based synthesis of ZnO–CeO2–MgO nanocomposite using Ocimum Basilicum L seed extract: Biological effects and photocatalytic activity,*** Materials Chemistry and Physics, 2024, 314, 128919

2. Aliannezhadi, M., Mirsanaee, S.Z., Jamali, M., Shariatmadar Tehrani, F., ***The physical properties and photocatalytic activities of green synthesized ZnO nanostructures using different ginger extract concentrations***, Scientific Reports, 2024, 14(1), 2035

3. Aliannezhadi, M., Mirsanai, S.Z., Jamali, M., Shariatmadar Tehrani, F., ***Optical and structural properties of bare MoO3 nanobelt, ZnO nanoflakes, and MoO3/ ZnO nanocomposites: The effect of hydrothermal reaction times and molar ratios***, Optical Materials, 2024, 147, 114619

4. K Vazirinezhad, F Shariatmadar Tehrani, S Zeinali, ***Porosity and morphology control of mesoporous Cu-BTC Metal-Organic Framework microparticles,*** Progress in Physics of Applied Materials, 2024, 4 (1), 47-58

5. Gholizadeh, Z., Aliannezhadi, M., Ghominejad, M., Shariatmadar Tehrani, F., ***Optical and structural properties of spherical-shaped boehmite and γ-alumina nanoparticles by ultrasonic-assisted hydrothermal method: the effects of synthesis route, calcination, and precursor concentration***, Optical and Quantum Electronics, 2023, 55(10), 880

6. Aliannezhadi, M., Abbaspoor, M., Shariatmadar Tehrani, F., Jamali, M., ***High photocatalytic WO3 nanoparticles synthesized using Sol-gel method at different stirring times,*** Optical and Quantum Electronics, 2023, 55(3), 250

7. B Pourhadi, M Jamali, Z Bahrami, F Shariatmadar Tehrani, ***Hydrothermal synthesis of WO3 nanorods: pH adjustment stage, additive comparison and photocatalysis activities,*** Progress in Physics of Applied Materials, 2023, 3, 105-118

8. Sheikhi, S., Aliannezhadi, M., Tehrani, F.S., ***The effect of PEGylation on optical and structural properties of ZnO nanostructures for photocatalyst and photodynamic***

applications, Materials Today Communications, 2023, 34, 105103

9. Abbaspoor, M., Aliannezhadi, M. & Tehrani, F.S. ***High-performance photocatalytic WO3 nanoparticles for treatment of acidic wastewater***. Journal of Sol-Gel Science and Technology, 2023, 105(2), 565–576

10. Z Gholizadeh, M Aliannezhadi, M Ghominejad, FS Tehrani, ***High specific surface area γ-Al2O3 nanoparticles synthesized by facile and low-cost co-precipitation method,*** Scientific Reports, 2023 13 (1), 6131

11. M Aliannezhadi, Z Gholizadeh, M Ghominejad, F Shariatmadar Tehrani, ***The effect of precursor on the alumina nanostructures synthesized by green method for copper ions removal from industrial wastewater,*** Iranian Journal of Physics Research, 2023, 22 (4), 711-722

12. Sheikhi, S., M. Aliannezhadi, and F. S. Tehrani, ***Effect of precursor material, pH, and aging on ZnO nanoparticles synthesized by one-step sol–gel method for photodynamic and photocatalytic applications***. The European Physical Journal Plus, 2022. 137(1): p. 60.

13. Abbaspoor, M., M. Aliannezhadi, and F. S. Tehrani, ***Effect of solution pH on as-synthesized and calcined WO3 nanoparticles synthesized using sol-gel method***. Optical Materials, 2021. 121: p. 111552.

14. Tehrani, F. S., E. Rasouli, and M. Aliannezhadi, ***Novel photoluminescent In2O3/a-SiC core/shell nanostructure synthesized by HW-assisted PECVD method***. The European Physical Journal Plus, 2021. 136(3): p. 1-14.

15. Jamali, M. and F.S. Tehrani, ***Thermally stable WO3 nanostructure synthesized by hydrothermal method without using surfactant***. Materials Science and Engineering: B, 2021. 270: p. 115221.

16. Tehrani, F.S., H. Ahmadian, and M. Aliannezhadi, ***High specific surface area micro-mesoporous WO 3 nanostructures synthesized with facile hydrothermal method***. The European Physical Journal Plus, 2021. 136(1): p. 1-11.

17. Ahmadian, H.R., F. Shariatmadar Tehrani, and M. Aliannezhadi***, Effect of hydrothermal temperature on the physical and chemical properties of tungsten oxide nanostructures***. Applied Chemistry, 2020. 15(54): p. 43-54.

18. Tehrani, F.S., H. Ahmadian, and M. Aliannezhadi, ***Hydrothermal synthesis and characterization of WO3 nanostructures: effect of reaction time***. Materials Research Express, 2020. 7(1): p. 015911.

19. Jamali, M. and F.S. Tehrani, ***Effect of synthesis route on the structural and morphological properties of WO3 nanostructures***. Materials Science in Semiconductor Processing, 2020. 107: p. 104829.

20. J Alipour Zardkouhi, F Shariatmadar Tehrani, M Aliyannezhadi, ***Theoretical study on the effect of source-to-substrate distance on copper thin film deposited by thermal evaporation technique,*** Nanoscale, 2020, 7 (1), 82-89

21. Tehrani, F.S., M. Fakhredin, and M.J. Tafreshi, ***The optical properties of silicon carbide thin films prepared by HWCVD from pure silane and methane under various total gas partial pressure***. Materials Research Express, 2019. 6(8): p. 086469.

22. Ehsani, M, Esmaeili,S, Aghazadeh, M, Kameli, P, Shariatmadar Tehrani, F, Karimzadeh, I, ***An investigation on the impact of Al doping on the structural and magnetic properties of Fe 3 O 4 nanoparticles***. Applied Physics A, 2019. 125(4): p. 1-9.

23. Ahmadian, H., F.S. Tehrani, and M. Aliannezhadi, ***Hydrothermal synthesis and characterization of WO3 nanostructures: effects of capping agent and pH***. Materials Research Express, 2019. 6(10): p. 105024.

24. M. A. Abdul Rahman, W. S. Chiu, C. Y. Haw, R. Badaruddin, F. S. Tehrani, M. Rusop, P. Khiew, S. A. Rahman, ***Multi-phase structured hydrogenated amorphous silicon carbon nitride thin films grown by plasma enhanced chemical vapour deposition***, Journal of Alloys and Compounds 721 (2017) 70-79.

25. Fatemeh Shariatmadar Tehrani, ***Influence of total gas partial pressure on the structural formation of SiC thin films deposited by HWCVD technique,*** J Mater Sci: Mater Electron (2016) 27:11457–11462.

26. Fatemeh Shariatmadar Tehrani, ***Transformation from amorphous to nano-crystalline SiC thin films prepared by HWCVD technique without hydrogen dilution***, Bulletin of Materials Science (2015) 38 (5), 1333-1338

27. Fatemeh Shariatmadar Tehrani, Saadah Abdul Rahman, ***Influence of filament-to-substrate distance on the spectroscopic, structural and optical properties of silicon carbide thin filmsdeposited by HWCVD technique***, Journal of Materials Science: Materials in Electronics (2014) 25:2366–2373.

28. F. Shariatmadar Tehrani, B.T. Goh, M.R. Muhamad, S.A. Rahman, ***Pressure dependent structural and optical properties of silicon carbide thin films deposited by hot wire chemical vapor deposition from pure silane and methane gases***, Journal of Materials Science: Materials in Electronics, 2013. 24(4): p. 1361-1368.

29. F. Shariatmadar Tehrani, M.R. Badaruddin, R.G. Rahbari, M.R. Muhamad, S.A. Rahman, ***Low-pressure synthesis and characterization of multiphase SiC by HWCVD using CH_4/SiH_4,*** Vacuum 86 (2012), 1150-1154

30. F. Shariatmadar Tehrani, R. Ritikos, B.T. Goh, M.R. Muhamad, S.A. Rahman, ***Effect of methane flow rate on properties of HWCVD silicon carbide thin films***, Solid State

Science and Technology 19 (2011) 26-31

31. H. Eshghi, F. Shariatmadar Tehrani, ***A quantitative study of nitrogen content influence on the carrier mobility in GaN_xAs_{1-x} ($0.008<x<0.022$)***, Journal Of Optoelectronics and Advanced Material (2009) 11: 1467 - 1470

Conference papers:

1. F. Shariatmadar Tehrani, M. R. Muhamad and S. A. Rahman, ***Structural and optical properties of high deposition rate silicon carbide prepared by Hot Wire CVD***, The 5th International Conference on Technological Advances of Thin Films & Surface Coatings 11 -14 July 2010, Harbin, China

Awards

- Award from **Chancellor** of Shahrood University of Technology for the **best grade** in university among the students in Bsc and Msc.

- **Best Poster Prize** from the Organizing Committee of ISCMP award. (Poster title: A Quantitative study of nitrogen concentration on dislocation density in dilute nitride semiconductor GaN_XAs_{1-X} ($0.008<x<0.022$)).