



Zahra Seidalilir

Current position:

Assistant Professor

Shahid Chamran University of Ahvaz.

Personal Information:

Date and Place of Birth: June 29th, 1985 in Behbahan (Iran)

Citizenship: Iranian

Marital Status: Married

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Degree	Institution	Field	Date	Place
Diploma	High School	Mathematical Physics	1999-2003	Behbahan-Iran
B.Sc.	Tarbiat Moallem U (Kharazmi U)	Atomic and Molecular Physics	2003-2007	Karaj-Iran
M.Sc.	Tarbiat Moallem U (Kharazmi U)	Atomic and Molecular Physics	2007-2009	Karaj-Iran
Ph.D.	Tarbiat Modares U	Atomic and Molecular Physics	2009-2015	Tehran-Iran

Thesis and Dessertation:

M.Sc.: Investigation of Spectroscopic & Electro-Optical Properties of Azo-Dye Doped Nematic Liquid Crystals.

Ph.D: Fabrication, structural optimization and optical and phononical properties investigation of titanium dioxide nanostructures for use in dye sensitized solar cells.

Research Interests:

1. Dye sensitized solar cells.
2. Liquid crystals.
3. Nanostructured photocatalysts.
4. Optoelectronics.
5. Photonics & nonophotonics crystals.
6. Nonlinear optics

Characterization Techniques

1. AFM (atomic force microscopy)
2. SEM (scanning electron microscopy)

3. TEM (Transmission electron microscopy)
4. XRD (X-ray diffraction)
5. XRF (X-ray fluorescence)
6. UV-visible Spectroscopy
7. Raman Spectroscopy
8. BET & BJH surface area measurement and pore size analysis
9. Photoelectrochemical techniques (intensity modulated photo-current & photo-voltage spectroscopy, incident photon-to-current efficiency, electrochemical impedance spectroscopy)
10. FTIR spectroscopy
11. Light scattering and diffusion reflection spectroscopy

Visiting Scholar

National Chiao Tung University, Hsinchu, Taiwan.

Supervisor: Eric Diau.

Distinctions:

1. Student in governmental high school, khoozestan-Iran, Rank : First /100.(2003)
2. Top student in physics in bachelor, Rank : First /40 (2007)
3. Member of talented students in bachelor (2003-2007)
4. Top student in M.Sc.(2008)
5. First poster of the 16th conference on optics and photonics, Yazd (2010)

Publications:

- **Conference Papers :**

1. M. H. Majlesara, **Z.Seidali**, S. H. Mousavi, R. Ghanbari. ELECTRO-OPTICAL CHARACTERIZATION OF NOVEL DYE DOPED NEMATIC LIQUID CRYSTALS, OLC2009, Italy.
2. **Z. Seidali**, M. H. Majlesara, Optical properties of dye- doped nematic liquid crystals, 16th Conference of Optics and Photonics, 2010, Yazd, Iran.

3. **Z. Seidali** M. H. Majlesara, Linear dichroism study of different concentration of Azo- dyes in nematic liquid crystals, 18th Conference of Optics and Photonics and 4th Conference on Photonics Engineering, 2012, Tabriz, Iran.
4. **Z.seidali**, R. Malekfar, Single crystalline TiO₂ nanorods/TiO₂ nanoparticles composite for use in dye sensitized solar cells, Conference on Nanostructured Solar Cells (NSSC91), 2012, Tehran, Iran.
5. **Z.Seidalilir**, R. Malekfar, E. W. G. Diau, "Fabrication and optimization of high performance dye sensitized solar cells based on ordered TiO₂ nanotubes using polymer gel electrolytes", Conference on Nanostructured Solar Cells (NSSC92), 2013, Tehran, Iran.
6. **Zahra Seidalilir**, Rasoul Malekfar, "Highly ordered single crystalline TiO₂ nanorods/TiO₂ nanoparticles composite for dye sensitized solar cells, 19th Iranian Conference on Optics and Photonics (ICOP 2013), 22-24 January 2013, University of Sistan and Baluchestan.
7. **Zahra Seidalilir**, Rasoul Malekfar, "Synthesis and characterization of highly ordered titanium nanotubes with different lengths for highly efficient dye sensitized solar cells", 20th Iranian Conference on Optics and Photonics (ICOP 2014), 28-30 January 2014, Shiraz University.
8. A. G. Dezfuli, S. Abdollahi, **Z. Seidalilir**, Production of Tin dioxid hallow nanofibers with electrospinning method And investigation of their structural properties, 8th national conference on physics, 10-11 May 2017, Shiraz.
9. H. Goudarzi , A. G. Dezfuli, **Z. Seidalilir**, Fabrication and Investigation of Structural and Optical Properties of 3D Cabbage-like Zinc Oxide Micro/ Nanostructures, Annual physics Conference of Iran, 28-31 August 2017, Yazd university, Yazd.
10. M. Hafizimakan, A. G. Dezfuli, **Z. Seidalilir**, fabrication of ZnO/SnO₂ hollow nanofibers using electrospinning and investigation of their structural properties, 2th national conference of nanoscience and nanotechnology, 15 May 2018, Borojerd.
11. **Z. Seidalilir**, R. Malekfar, Dye sensitized solar cells based on highly ordered TiO₂ nanotube arrays and PMMA-MA based polymer gel electrolytes, 2th national conference of nanoscience and nanotechnology, 15 May 2018, Borojerd.
12. **Z. Seidalilir**, R. Malekfar, A review on the potential of solar energy in Khuzestan province and the need for its development, 3th conference on sustainable security in Khuzestan province, 13 March 2018, Shahid Chamran University of Ahvaz, Ahvaz.

13. **Z. Seidalilir**, M. Sabaeian, E. Soheyli, R. Sahraei, Enhanced dielectric anisotropy and low threshold voltage of nematic liquid crystal doped with Ni:ZnCdS/ZnS core/shell quantum dots, Annual physics Conference of Iran, 22-25 August 2020, Razi University, Kermanshah.

14. **Z. Seidalilir**, M. Sabaeian, E. Soheyli, R. Sahraei, Enhancement of electrical conductivity and charge-capacitance of nematic liquid crystal doped with Ni:ZnCdS/ZnS core/shell quantum dots, Annual physics Conference of Iran, 22-25 August 2020, Razi University, Kermanshah.

- **Journal Papers:**

1. M. H. Majles Ara, **Z. Seidali** , S. H. Mousavi, Electro-optical properties of dye-doped nematic liquid crystals, *Cryst.Liq.Cryst.*, 526, 130–138 (2010).

2. M. H. Majles Ara, **Z. Seidali** "The effect of Sudan dyes concentration in the linear dichroism of the nematic liquid crystals, *Optik*, 126, 297-300 (2015).

3. A. Maleki, **Z. Seidali**, M.S. Zakerhamidi, M.H. Majles Ara, "Dichroic ratio and order parameters of some sudan dyes doped in nematic liquid crystalline matrix", *Optic*, 126, 5473-5477 (2015).

4. **Z. Seidalilir**, R. Malekfar, H. P. Wu, J. W. Shiu, E. W. G. Diau, "High-performance and Stable Gel-state Dye-sensitized Solar Cells using Anodic TiO₂ Nanotube Arrays and Polymer-based Gel Electrolytes", *ACS Appl. Mater. Interfaces*, 7, 12731-12739 (2015).

5. **Z. Seidalilir**, R. Malekfar, J. W. Shiu, H. P. Wu, E. W. G. Diau, "High-performance Gel-type Dye-sensitized Solar Cells using poly (methyl methacrylate-co-ethylacrylate)-based Polymer Gel Electrolyte with Superior Enduring Stability", *J. Electrochem. Soc.*, 162, H922-H928 (2015).

6. A. G. Dezfuli, H. Goudarzi, **Z. Seidalilir**, "Fabrication of core- shell ZnO/ZnS nanorods by hydrothermal method and study of their structural and optical properties," Accepted for publication in *Journal of Research on Many-body Systems* in press (2019).

7. **Z. Seidalilir**, E. Soheyli, M. Sabaeian, R. Sahraei, Enhanced electrochemical and electro-optical properties of nematic liquid crystal doped with Ni:ZnCdS/ZnS core/shell quantum dots, *J. Mol. Liq.*, 320, 114373 (2020).

8. A. G. Dezfuli, M. Hafizimakan, **Z. Seidalilir**, Production of SnO₂/ZnO composite hollow nanofibers by electrospinning and Investigation of their structural and photocatalytic properties, JRMBS, DOI: 10.22055/JRMBS.2020.15938 (2020).