

## Dr. Muhammad Arshad Kamran



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### Research Interests:

1-D Semiconductors/transition metals Doped-Semiconductors Nanostructures Synthesis.

Investigating the photoluminescence, luminescence dynamics, stimulated emission (lasing), waveguide, I-V, Magneto-Optical and magnetic properties for optoelectronics, spintronics, and solar cells applications.

### Language Skills

English, Urdu

### Qualification (Career and University Education)

2000	B. Sc. Degree (Physics, Math.)	University of Punjab, Lahore. Pakistan.
2002	M.Sc. Degree (Physics)	University of Punjab, Lahore. Pakistan.
2005	M.Phil. Degree (High Energy Physics)	University of Punjab, Lahore. Pakistan.
2014	PhD Degree (Materials Science Engineering)	Beijing Institute of Technology, China.

### Career

2005- 2007	Teacher of O-Level Physics (Edexcel/Cambridge Systems), Chand Bagh School, Lahore, Pakistan.
2007-2010	Teacher of Advanced Level Physics (Cambridge Systems), English Language School, Dubai, UAE.
2014-2019	Assistant Professor, Department of Physics, Majmaah University, College of Science, Zulfi, Saudi Arabia.
2019-Now	Associate Professor, Department of Physics, Majmaah University, College of Science, Zulfi, Saudi Arabia.

### Conferences

Aug. 12-16, 2013	International Conference for Top and Emerging Materials Scientists, IC-TEMS 2013 ZHUHAI, China. Speaker Talk title: "Tuning Structural and Optical Properties by Doping Proper Metal Ion in CdS-based Nanostructures".
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### Publications

Year	Journal	Title of Publication	Impact Factor
2019	ACTA PHYSICA SINICA 68, 1, 017101 <a href="https://doi.org/10.7498/aps.68.20181211">https://doi.org/10.7498/aps.68.20181211</a>	Excitonic magnetic polarons and their luminescence in II-VI diluted magnetic semiconductor micro-nanostructures.	0.66
2019	Journal of Nanoscience and Nanotechnology 19, 7, 4172-4177(6) <a href="https://doi.org/10.1166/jnn.2019.15834">https://doi.org/10.1166/jnn.2019.15834</a>	Mn(II) ions assisted near-infrared single-mode lasing from an individual Mn-doped CdS nanobelts.	1.483

2018	Nanotechnology 29, 435702 <a href="https://doi.org/10.1088/1361-6528/aad894">https://doi.org/10.1088/1361-6528/aad894</a>	The aggregation of Mn <sup>2+</sup> , its d-d transition in CdS:Mn(II) nanobelts and bound magnetic polaron formation at room temperature.	3.44
2018	Nanotechnology (IOP Publishing) 29, 265602 <a href="https://doi.org/10.1088/1361-6528/aabdc2">https://doi.org/10.1088/1361-6528/aabdc2</a>	Role of Ni <sup>2+</sup> (d <sub>8</sub> ) ions in electrical, optical and magnetic properties of CdS nanowires for optoelectronic and spintronic applications.	3.44
2018	Journal of Science: Advanced Materials and Devices 3, 226-229 <a href="https://doi.org/10.1016/j.jsamd.2018.04.001">https://doi.org/10.1016/j.jsamd.2018.04.001</a>	Novel low temperature synthesis and optical properties of 1D-ZnTe Nanowires.	
2017	Journal of Materials Chemistry-C-RSC 5, 8749-8757 <a href="https://doi.org/10.1039/c7tc02206a">10.1039/c7tc02206a</a>	Large tunable luminescence by Mn(II) aggregates in Mn-doped ZnS nanobelts.	5.256
2017	Optical Materials- ELSEVIER 73, 527-534 <a href="http://dx.doi.org/10.1016/j.optmat.2017.09.005">http://dx.doi.org/10.1016/j.optmat.2017.09.005</a>	Novel Cd-CdS micro/nano heterostructures: Synthesis and luminescence properties.	2.238
2017	Physica E- ELSEVIER 86, 81-87 <a href="http://dx.doi.org/10.1016/j.physe.2016.10.009">http://dx.doi.org/10.1016/j.physe.2016.10.009</a>	Tunable emission and conductivity enhancement by tellurium doping in CdS nanowires for optoelectronic applications.	2.221
2016	ACS Photonics 3, 1809-1817 <a href="http://pubs.acs.org/doi/abs/10.1021/acsphotonics.6b00289">http://pubs.acs.org/doi/abs/10.1021/acsphotonics.6b00289</a>	Exciton Magnetic Polaron and its Polarization and condensation-related Emission in Diluted Co-Doped Ferromagnetic CdS Nanowire and Nanobelts.	6.88
2016	RSC Advances 6, 24675-24682 <a href="https://doi.org/10.1039/C6RA02390H">10.1039/C6RA02390H</a>	Tailoring the electrical and Photo-electrical properties of WS <sub>2</sub> Field effect transistor by selective n-type chemical doping.	3.108
2016	Journal of Nanoscience and Nanotechnology-ASP 16, 4, 4086-4093 <a href="https://doi.org/10.1166/jnn.2016.11033">https://doi.org/10.1166/jnn.2016.11033</a>	Synthesis and Photoluminescence of Single-Crystalline Fe(III)-doped CdS Nanobelts.	1.483
2015	Journal of Nano Research 33, 38-48, 8.4028 10.4028/www.scientific.net/JNanoR.33.38	Morphology-Controlled Synthesis of Single Crystalline $\alpha$ -Mn <sub>2</sub> O <sub>3</sub> Sea-Urchins Assembled with Pen-Type Nanoneedles and Broad Absorption Spectrum.	0.511
2015	Journal of Nanoscience and Nanotechnology 15,4435-4441 <a href="https://doi.org/10.1166/jnn.2015.9790">https://doi.org/10.1166/jnn.2015.9790</a>	Synthesis of Novel Sea-Urchin-like CdS and their Optical Properties.	1.354
2014	Science of Advanced Materials-ASP 6, 2666-2672 <a href="https://doi.org/10.1166/sam.2014.1981">https://doi.org/10.1166/sam.2014.1981</a>	Large-Scale Synthesis of Highly Pure Cadmium Semi-Spheres and their Anomalous Optical Properties.	1.318
2014	Nanotechnology 25, 385201 <a href="https://doi.org/10.1088/0957-4484/25/38/385201">https://doi.org/10.1088/0957-4484/25/38/385201</a>	Tunable Emission Properties by Ferromagnetic Coupling Mn(II) aggregates in Mn-doped CdS nanowires.	3.44
2014	Nanoscience and Nanotechnology Letters 6, 706-710 <a href="https://doi.org/10.1166/nnl.2014.1826">https://doi.org/10.1166/nnl.2014.1826</a>	Photoluminescence and magnetic properties of Mn-doped ZnS nanobelts.	2.917
2014	Chinese Physics Letters 31, 067802 <a href="https://doi.org/10.1088/0256-3079/31/06/067802">https://doi.org/10.1088/0256-</a>	A Model on the Mn <sup>2+</sup> Luminescence band redshift with Mn(II) doping and aggregation	0.847

	<a href="#">307X/31/6/067802</a>	within CdS:Mn microwires.	
2014	Materials Research Bulletin-Elsevier 49, 180–186 <a href="https://doi.org/10.1016/j.materresbull.2013.08.038">https://doi.org/10.1016/j.materresbull.2013.08.038</a>	The length controllable synthesis and near-infrared photoluminescence of one-dimensional ternary Cu <sub>4</sub> Bi <sub>4</sub> S <sub>9</sub> semiconductor nanobelts.	2.873
2013	Journal of Physical Chemistry C-ACS 117,17777–17785 <a href="http://pubs.acs.org/doi/abs/10.1021/jp402831n">http://pubs.acs.org/doi/abs/10.1021/jp402831n</a>	Near Infrared Emission Band and Origin in Ni(II)-Doped CdS Nanoribbons by CVD Technique.	4.484
2013	Nano Letters-ACS 13,2997–3001 <a href="10.1021/nl401726z">10.1021/nl401726z</a>	Single-Step Synthesis of Monolithic Comb-like CdS Nanostructures with Tunable Waveguide Properties.	12.08
2013	Journal of Applied Physics 113, 143105 <a href="http://dx.doi.org/10.1063/1.4800914">http://dx.doi.org/10.1063/1.4800914</a>	Group delay of single-photon transmission in a waveguide side coupled with a Jaynes-Cummings chain.	2.176
2013	Journal of Nanoscience and Nanotechnology 13, 2937-2942 <a href="DOI: 10.1166/jnn.2013.7389">DOI: 10.1166/jnn.2013.7389</a>	Preparation, Characterizations and Optical Property of Single Crystalline ZnMn <sub>2</sub> O <sub>4</sub> Nanoflowers via Template-Free Hydrothermal Synthesis.	1.354
2013	Sains Malaysiana 42, 231–237 <a href="http://www.ukm.edu.my/jsm/pdf_files/SM-PDF-42-2-2013/17%20Tariq.pdf">http://www.ukm.edu.my/jsm/pdf_files/SM-PDF-42-2-2013/17%20Tariq.pdf</a>	Pressure Induced Structural and Electronic Bandgap properties of Anatase and Rutile TiO <sub>2</sub> .	0.47
2012	Optics Letters 37, 5085-5087 <a href="https://doi.org/10.1364/OL.37.005085">https://doi.org/10.1364/OL.37.005085</a>	Tailoring of optical modes of semiconductor microcavities via metal and dielectric gratings.	3.416

## Teaching Experience

Course name	Course code	Campus	University
Semiconductors	PHYS473	Zulfi College of Science	Majmaah University
Material Science	PHYS474	Zulfi College of Science	Majmaah University
General Physics-II	PHYS 217	Zulfi College of Science	Majmaah University
General Physics-II	PHYS 1022	Zulfi College of Science	Majmaah University
Mathematical Physics-I	PHYS 303	Zulfi College of Science	Majmaah University
Solid State Physics Lab	PHYS 496	Zulfi College of Science	Majmaah University
Practical Training	PHYS 494	Zulfi College of Science	Majmaah University
Advanced Level Physics		Dubai	English Language School
Physics A Course for O-Level		Lahore, Pakistan	Chand Bagh School