

PERSONAL INFORMATION

Dr. Muhammad Rafique



Mailing Address: Department of Physics, University of Sahiwal, Sahiwal, Pakistan



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Gender: Male **Nationality:** Pakistani

WORK EXPERIENCE

Dec 2019 to date

Assistant Professor

Department of Physics, University of Sahiwal, Sahiwal, Pakistan
Teaching of graduate and post graduate classes

Public Sector

April 2015 to Dec 2019

Lecturer

Department of Physics, University of Gujrat, Gujrat, Pakistan
Teaching of graduate and post graduate classes

Public Sector

Mar 2013 to April 2015

Lecturer

Department of Basic Sciences and Humanities, University of South Asia, Lahore, Pakistan
Teaching of graduate and post graduate classes

Private Sector

Feb 2012 to Feb 2013

Lecturer-Visiting

Department of Basic Sciences & Humanities, KSK Campus, UET, Lahore, Pakistan
Teaching of graduate and post graduate classes

Public Sector

Aug 2011 to Jan 2012

Lecturer

Department of Physics, Punjab Group of Colleges, Lahore Pakistan
Teaching of Intermediate classes

Private Sector

EDUCATION AND TRAINING

2011 to 2017

PhD Physics

(1st Division)

University of Engineering and Technology, Lahore, Pakistan

2008 to 2010

Master of Philosophy (M.Phil) Applied Physics

(1st Division)

University of Engineering and Technology, Lahore, Pakistan

2005 to 2008

Master of Science (M.Sc) Applied Physics

(1st Division)

University of Engineering and Technology, Lahore, Pakistan

2003 to 2004

Bachelor of Science (B.Sc) Physics, Mathematics, Statistics

(1st Division)

University of the Punjab, Lahore, Pakistan

RESEARCH PROFILE

AWARDS & HONOURS

- **Indigenous PhD Fellowships for 5000 Scholars, HEC**
- **HEC Approved Supervisor for PhD / MPhil / MS / MSc / BS, etc.**

RESEARCH PROJECTS

Win HEC NRP Project as PI worth 5.69 Million (NRP # 9745)

Development of an Efficient, Cost Effective and Eco-Friendly Heterojunction Solar Cell

BOOKS / BOOK CHAPTERS

1. **Muhammad Rafique***, Muhammad Bilal Tahir, Iqra Sadaf, (2019) Chapter entitled "Nanotechnology: An Innovative Way for Waste Water Treatment and Purification" in book edition entitled "Advanced Research in Nanosciences for Water Technology" Springer Nature
2. Muhammad B. Tahir, **Muhammad Rafique**, Muhammad Sagir, Sami Ullah and Habiba Kiran, "Nanomaterials for Photocatalytic Applications. In: Sulaiman, Shamsuddin (editor in chief), Reference Module in Materials Science and Materials Engineering. Oxford: Elsevier, 2019, pp. 1–14.
3. M. Bilal Tahir, N. R. Khalid, T. Iqbal, **M. Rafique**, Habiba Kiran, (2018) Chapter entitled "Role of nano-photocatalysis in heavy metal detoxification" in the book edition entitled "Advances in Nanophotocatalysis and Environmental Applications", Springer Publisher.

PUBLICATIONS

Sr. No.	Year	ISI Publications	Impact Factor
1.	2020	Muneeb Irshad, Qurat ul Ain, Khurram Siraj, Rizwan Raza, Asif Nadeem Tabish, Muhammad Rafique , Raazia Idrees, Fiaz Khan, Shahbaz Majeed, Muhammad Ahsan "Evaluation of BaZr _{0.8} X _{0.2} (X= Y, Gd, Sm) proton conducting electrolytes sintered at low temperature for IT-SOFC synthesized by cost effective combustion method" <i>Journal of Alloys and Compounds</i> , 815, 152389 (2020). (DOI: 10.1016/j.jallcom.2019.152389)	4.175
2.	2020	S. S. A. Gillani, Riaz Ahmad, Islah-u-din, Muhammad Rizwan, M. Shakil, Muhammad Rafique, G Murtaza, H. B. Jin "First-principles investigation of structural, electronic, optical and thermal properties of Zinc doped SrTiO ₃ " <i>Optik</i> , 201, 163481 (2020). (DOI: 10.1016/j.ijleo.2019.163481).	1.914
3.	2019	Muhammad Rafique* , Iqra Sadaf, M. Bilal Tahir, M. Shahid Rafique, Ghulam Nabi, Tahir Iqbal, Kalsoom Sughr, "Novel and Facile Synthesis of Silver Nanoparticles using Albizia procera Leaf Extract for Dye degradation and Antibacterial Applications" <i>Materials Science & Engineering C</i> , 99, 1313-1324 (2019).	5.080
4.	2019	Muhammad Rafique* , Muhammad Shahid Rafique, Shariqa Hassan Butt, Amina Afzal, Umer Kalsoom, Laser nature dependence on enhancement of optical and thermal properties of copper oxide nanofluids" <i>Applied Surface Science</i> , 483, 187-193 (2019).	4.439
5.	2019	Muhammad Rafique* , Iqra Sadaf, G. Nabi, M. Bilal Tahir, M. Isa Khan, "Fabrication of Novel Hybrid Composite La _{2-x} CoxCuO ₄ Electrode for High Performance Supercapacitors" <i>International Journal of Energy Research</i> , 43, 2361-2368 (2019).	3.009
6.	2019	Faiz Rabbani, Ahson J. Shaikh, Jamil Khan, Humayun Ajaz, Muhammad Rafique* , Zia Ul Haq Khan, Zulfiqar Ali, Habib Hussain, M. Mazhar Gillani, Khurshid Aslam, G. M. Shah, "Removal of organic colorants using nano copper antimony oxychloride synthesized by non-solvated system" <i>Journal of Inorganic and Organometallic Polymers and Materials</i> , 29, 893-900 (2019).	1.754
7.	2019	M. B. Tahir, Abdullah M. Asiri, Ghulam Nabi, M. Rafique , M. Sagir, "Fabrication of	3.057

		heterogeneous photocatalysts for insight role of carbon nanofibre in hierarchical WO ₃ / MoSe ₂ composite for enhanced photocatalytic hydrogen generation”, <i>Ceramics International</i> , 45(5), 5547-5552 (2019).	
8.	2019	Muhammad Rafique* , Javeria Jahangir, Bilal Ahmad Zafar Amin, M. Bilal Tahir, Ghulam Nabi, M. Isa Khan, N. R. Khalid, S. S. A. Gillani, Iqra Sadaf, “Investigation of Photocatalytic and Seed Germination Effects of TiO ₂ Nanoparticles Synthesized by Melia azedarach L. Leaf Extract” <i>Journal of Inorganic and Organometallic Polymers and Materials</i> , 29(6), 2133-2144 (2019).	1.754
9.	2019	Muhammad Rafique* , Muhammad Shahid Rafique, Umber Kalsoom, Amina Afzal, Shariqa Hassan Butt, Arslan Usman, Laser ablation synthesis of silver nanoparticles in water and dependence on laser nature, <i>Optical and Quantum Electronics</i> , 51:179 (2019). (DOI: 10.1007/s11082-019-1902-0)	1.168
10.	2019	Muhammad Rafique* , Huma Nawaz, M. Shahid Rafique, M. Bilal Tahir, G. Nabi, N. R. Khalid “Material and Method Selection for Efficient Solid Oxide Fuel Cell Anode: Recent Advancements and Reviews”, <i>International Journal of Energy Research</i> , 43, 2423-2446 (2019).	3.009
11.	2019	S. S. A. Gillani, Riaz Ahmad, Muhammad Rizwan, Muhammad Rafique , Ghulam Ullah , C. B. Cao , H. B. Jin, “Effect of magnesium doping on band gap and optical properties of SrZrO ₃ perovskite: A first-principles study” <i>Optik</i> , 191, 132-138 (2019). (DOI: 10.1016/j.ijleo.2019.05.099)	1.191
12.	2019	Tahir Iqbal, Mohsin Ijaz, Muhammad Javaid, Muhammad Rafique , Khalid Nadeem Riaz, Muhammad Bilal Tahir, Ghulam Nabi, Muhammad Abrar, Sumera Afsheen. “An Optimal Au Grating Structure for Light Absorption in Amorphous Silicon Thin Film Solar Cell” <i>Plasmonics</i> , 14(1), 147-154 (2019).	2.366
13.	2019	Arslan Usman, Shumaila Karamat, Abdul Sattar, Afshan Ashfaq, Muhammad Rafique , Judith Dawes, “Spectroscopic and Structural Dynamics of MoS ₂ Thin Films” <i>Journal of Nano Research</i> , 58, 74-79 (2019).	0.665
14.	2019	N. R. Khalid, A. Hammad, M.B. Tahir, M. Rafique , T. Iqbal, G. Nabi, M.K. Hussain, “Enhanced photocatalytic activity of Al and Fe co-doped ZnO nanorods for methylene blue degradation” <i>Ceramics International</i> , 45(17), 21430-21435 (2019). (DOI: 10.1016/j.ceramint.2019.07.132)	3.450
15.	2019	Muhammad Bilal Tahir, Maria Ashraf, Muhammad Rafique, Mohsin Ijaz, Sohail Farman, Iqra Mubeen, Activated Carbon Doped WO ₃ For Photocatalytic Degradation of Rhodamine-B, <i>Applied Nanoscience</i> , Accepted for publication in August 2019. (DOI: 10.1007/s13204-019-01141-y)	3.198
16.	2019	S. S. A. Gillani, R. Ahmad, Z. Gillani, Islahudin, M. Rizwan, M. Rafique, M. Shakil, S. Jabbar, M. Siddiq “Structural stability of SrZrO ₃ perovskite and improvement in electronic and optical properties by Ca and Ba doping for optoelectronic applications: A DFT approach” <i>Philosophical Magazine</i> , 99(24) 3133-3145 (2019).	1.855
17.	2019	Amina Afzal, Muhammad Shahid Rafique, Sadia Sagar Iqbal*, Shariqa Hassan Butt, Umber Kalsoom, Muhammad Rafique , Idiosyncratic Cellulose Acetate Nanocomposite Membranes: Synthesis and Performance Control Study for Desalination, <i>Environmental Technology</i> , Accepted for publication in August 2019.	1.918
18.	2019	M. Shakil, Sharjeel Hassan, Hafsa Arshad, M. Rizwan, S. S. A. Gillani, M. Rafique , M. Zafar, Shabbir Ahmed, Theoretical investigation of structural, magnetic and elastic properties of half Heusler LiCrZ (Z = P, As, Bi, Sb) alloys, <i>Physica B</i> , 575, 411677 (2019).	1.874
19.	2019	Muhammad Bilal Tahir, Sunaina Tufail, Adeel Ahmad, M. Rafique , Tahir Iqbal, Muhammad Abrar, Tasmia Nawaz, Muhammad Yaqoob Khan, Mohsin Ijaz “Semiconductor Nanomaterials for the Detoxification of Dyes in Real Wastewater Under Visible Light Photocatalysis” <i>International Journal of Environmental Analytical Chemistry</i> , Accepted for publication in October 2019. (DOI: 10.1080/03067319.2019.1686494)	1.267
20.	2019	N. R. Khalid, M. Bilal, M. B. Tahir, M. Shakil, T. Iqbal, M. Rafique , Nadeem Yousaf, S. S. A. Gillani, “Interfacial coupling effect of Ag ₂ O nanorods over MoS ₂ microflowers for improved photocatalytic activity” <i>Ceramics International</i> , Accepted for publication in November 2019. (DOI: 10.1016/j.ceramint.2019.11.179)	3.450
21.	2019	G. N. Watto, Muhammad Arshad Kamran, Thamer Alharbi, Muhammad Rafique , Muhammad Bilal Tahir, Sajjad Hussain, N. R. Khalid, Tahir Iqbal, M. Shakil, Chuanbao Cao “Gallium Vacancies Role in Hydrogen Storage of Single Crystalline GaN Hexagonal Micro-Sheets” <i>International Journal of Hydrogen Energy</i> , accepted for publication in December 2019.	4.084
22.	2019	Muhammad Rafique* , Falak Shafiq, Syed Sajid Ali Gillani, Muhammad Shakil, Muhammad Bilal Tahir, Iqra Sadaf “Eco-friendly Green and Biosynthesis of Copper Oxide Nanoparticles Using Citofortunella microcarpa Leaves extract for Efficient Photocatalytic Degradation of Rhodamin B Dye form Textile Wastewater” <i>Optik</i> , accepted for publication in December 2019.	1.914
23.	2019	Sumera Afsheen, Tahir Iqbal, Seep Akram, Almas Bashir, Aqsa Tehseen, Muhammad Rafique,	1.547

		Muhammad Shakil, Yaqoob Khan, "Surface Plasmon Based 1D-Grating Device for Efficient Sensing Using Noble metals", <i>Optical and Quantum Electronics</i> , accepted for publication in December 2019.	
24.	2019	Muhammad Rafique* , Rabbia Tahir, S. S. A. Gillani, M. Bilal Tahir, M. Shakil, T. Iqbal, M. O. Abdellahi, "Plant mediated green synthesis of zinc oxide nanoparticles from <i>Syzygium Cumini</i> for seed germination and wastewater purification", <i>International Journal of Environmental Analytical Chemistry</i> , accepted for publication in December 2019.	1.267
25.	2019	Muhammad Bilal Tahir, Abdullah M. Asiri, Muhammad Faheem Malik, N. R. Khalid, Tahir Iqbal, Muhammad Rafique , Habiba Kiran Sarwar, Shabbir Muhammad, Saif Eldin Siddeeg, Khurram Shahzad, "Role of Nano-Photocatalysts for Detoxification of Toxic Heavy Metal" <i>Current Analytical Chemistry</i> , accepted for publication in December 2019.	1.242
26.	2019	Tahir Iqbal, Zain Ashfaq, Sumera Afsheen, Mohsin Ijaz, Muhammad Yaqoob Khan, Muhammad Rafique , Ghulam Nabi, "Surface Enhanced Raman Scatterings (SERS) on 1D Nano-gratings", <i>Plasmonics</i> , accepted for publication in December 2019.	2.926
27.	2018	Tahir Iqbal, Haq Nawaz, Muhammad Sultan, M. B. Tahir, Muhammad Isa Khan, N. R. Khalid, Mohsin Ijaz, Muhammad Rafique "Novel Graphene Based Transparent Electrodes for Perovskite Solar Cells" <i>International Journal of Energy Research</i> , 42(15) 4866-4874 (2018).	3.009
28.	2018	M. B. Tahir, Ghulam Nabi, Muhammad Rafique , N. R. Khalid "Role of Fullerene to improve the WO ₃ Performance for Photocatalytic Applications and Hydrogen Evolution" <i>International Journal of Energy Research</i> , 42(15), 4783-4789 (2018).	3.009
29.	2018	M. B. Tahir, Muhammad Rafique , Muhammad Isa Khan, Abdul Majid, Muhammad Faizan Nazar, Muhammad Sagir, Muhammad Farooq, Adeel Ahmed "Enhanced Photocatalytic Hydrogen Energy Production of g-C ₃ N ₄ -WO ₃ Composites under Visible Light Irradiation", <i>International Journal of Energy Research</i> , 42, 4667-4673 (2018).	3.009
30.	2018	Muhammad Rafique , Ahson J. Shaikh, Reena Rashid, M. Bilal Tahir, S. S. A. Gillani, Arslan Usman, M. Imran Bhatti, Ali Zakir, Faiz Rabbani. "Aquatic biodegradation of methylene blue by copper oxide nanoparticles synthesized from <i>Azadirachta indica</i> leaves extract" <i>Journal of Inorganic and Organometallic Polymers and Materials</i> , 28(6), 2455-2462 (2018).	1.754
31.	2018	M.B. Tahir, G. Nabi, T. Iqbal, M. Sagir, M. Rafique , "Role of MoSe ₂ on nanostructures WO ₃ -CNT performance for photocatalytic hydrogen evolution" <i>Ceramics International</i> , 44, 6686-6690 (2018).	3.057
32.	2018	M. Bilal Tahir, Ghulam Nabi, N. R. Khalid, M. Rafique , Role of europium on WO ₃ performance under visible-light for photocatalytic activity" <i>Ceramics International</i> , 44(5), 5705-5709 (2018).	3.057
33.	2018	Ghulam Nabi, Qurat-ul-Aain, N. R. Khalid, M. Bilal Tahir, Muhammad Rafique , Muhammad Rizwan, Sajad Hussain, Tahir Iqbal, Abdul Majid, "A Review on Novel Eco-Friendly Green Approach to Synthesis TiO ₂ Nanoparticles Using Different Extracts" <i>Journal of Inorganic and Organometallic Polymers and Materials</i> , 28, 1552-1564 (2018).	1.754
34.	2018	M. B. Tahir, M. Sagir, M. Zubair, M. Rafique , Ifra Abbas, M. Shakil, Isa Khan, S. Afsheen, A. Hasan, Adeel Ahmed, WO ₃ Nanostructures-Based Photocatalyst Approach Towards Degradation of RhB Dye <i>Journal of Inorganic and Organometallic Polymers and Materials</i> , 28, 1107-1113 (2018).	1.754
35.	2018	Muhammad Bilal Tahir, Shoaib Ullah, Safdar Ali, M. Rafique , M. S. Rafique, Spectroscopic studies of Laser Generated Plasma X-rays and their effects on polymeric materials, <i>Indian Journal of Pure & Applied Physics</i> , 56, 392-398 (2018).	0.582
36.	2017	Muhammad Rafique , Iqra Sadaf, M. Shahid Rafique, and M. Bilal Tahir. "A review on green synthesis of silver nanoparticles and their applications." <i>Artificial Cells, Nanomedicine, and Biotechnology</i> , 45(7), 1272-1291 (2017).	5.605
37.	2017	Muhammad Rafique , Ahson J. Shaikh, Reena Rasheed, Muhammad Bilal Tahir, Hafiz FaiqBakhat, Muhammad Shahid Rafique, Faiz Rabbani. "A Review on Synthesis, Characterization and Applications of Copper Nanoparticles using Green Method" <i>Nano brief reports and reviews</i> , 12(4), 1750043 1-23 (2017).	1.025
38.	2017	Muhammad Rafique , Muhammad Shahid Rafique, Shariqa Hassan Butt, Umber Kalsoom, Amina Afzal, Safia Anjum, and Arslan Usman. "Dependence of the structural optical and thermo-physical properties of gold nano-particles synthesized by laser ablation method on the nature of laser" <i>Optik</i> , 134, 140-148 (2017).	0.835
39.	2017	M. Bilal Tahir, S. Hajra, M. Rizwan, and M. Rafique . "Optical, microstructural and electrical studies on sol gel derived TiO ₂ thin films" <i>Indian Journal of Pure & Applied Physics</i> , 55, 81-85 (2017).	0.521
40.	2017	Muhammad Bilal Tahir, M. Rafique , M. Shahid Rafique, Tahir Iqbal, and Ghulam Nabi "Electron emission characterization of Laser-induced gaseous plasma" <i>Indian Journal of Pure & Applied</i>	0.521

		<i>Physics</i> , 55, 145-154 (2017).	
41.	2017	Khalid, N. R., E. Ahmed, N. A. Niaz, Ghulam Nabi, M. Ahmad, M. Bilal Tahir, Muhammad Rafique , Muhammad Rizwan, and Yaqoob Khan. "Highly visible light responsive metal loaded N/TiO ₂ nanoparticles for photocatalytic conversion of CO ₂ into methane." <i>Ceramics International</i> , 43(9), 6771-6777 (2017).	2.986
42.	2017	Shariqa Hassan Butt, M. S. Rafique, Shazia Bashir, Usman Ilyas, K. Siraj, M.S. Awan, Khaliq Mehmood, M. Rafique , Amina Afzal. "Influence of Er doping on the structural, optical and luminescence properties of pulsed laser deposited Er: BaZrO ₃ thin films." <i>Ceramics International</i> , 43, 12162–12166 (2017).	2.986
43.	2017	Muhammad Bilal Tahir, M. Shahid Rafique, Rabia Ahmed, M. Rafique , Tahir Iqbal, Ali Hasan. "Energetic metallic ion implantation in polymers via cost-effective laser-driven ion source" <i>Applied Physics B</i> , 123:204 (2017).	1.696
44.	2017	M. B. Tahir, G. Nabi, M. Rafique , N. R. Khalid. "Nanostructured-based WO ₃ photocatalysts: recent development, activity enhancement, perspectives and applications for wastewater treatment" <i>Int. J. Environ. Sci. Technol.</i> 14(11), 2519–2542 (2017).	1.915
45.	2016	Khalid, Hina, Shamaila Shamaila, Nosheen Zafar, Rehana Sharif, Jawad Nazir, Mohammad Rafique , Sheeba Ghani, and Hussain Saba. "Antibacterial Behavior of Laser-Ablated Copper Nanoparticles." <i>Acta Metallurgica Sinica (English Letters)</i> , 29(8), 748-754 (2016).	1.292

Total Impact Factor

103.94

Non-ISI but Peer Reviewed International Publications	1.	M. Rafique , M. Shahid Rafique, M. Bilal Tahir, Muneeb Irshad, Shahbaz Majeed, "Time-resolved X-rays emission and laser to X-rays conversion efficiency of metallic targets", International Journal of Scientific & Engineering Research, Volume 5, Issue 2, February, 2014.
	2.	Muhammad Isa Khan, Aliza, M. Shakil, M.B. Tahir, Tahir Iqbal, Muhammad Rafique , Jalil ur Rehman, Khalid Iqbal "Selection of gamma analysis acceptance criteria in IMRT QA using Gafchromic EBT3 film dosimetry", Journal of Radiotherapy in Practice, 18, 127-131 (2019).
	3.	Muhammad Isa Khan, James, Jalil ur Rehman, M.B. Tahir, Muhammad Rafique , Tahir Iqbal, Sabiha, Aliza, Khalid Iqbal "Commissioning and Evaluation of the Radiochromic EBT3 Film Dosimetry System" Journal of Radiotherapy in Practice, 18, 55-62 (2019).
	4.	Muneeb Irshad, M. Shahid Rafique, M. Khaleeq-ur- Rahman, M. Rafique , Shahbaz Majeed "Variation in Spacing of Laser Induced Ripples due to Varying Surface Tension and its Effect on Electrical Properties of Si", European International Journal of Science and Technology, Vol. 2 No. 7, September 2013, 217-230.
	5.	Nazia Sarwar, M. Shahid Rafique, Muneeb Irshad, M. Rafique , Asma Hayat, Shahbaz Majeed, "Laser Propagation through Poly-Methyl-METHACRYLATE (PMMA) Thin Films Prepared By Pulsed Laser Deposition", International Journal of Engineering Research & Technology (IJERT), Vol. 2, Issue 10, October 2013, 2472-2481.
National Conferences	1.	Tahir Iqbal, Sumeera Afsheen, M. B. Tahir, N. R. Khalid, Muhammad Rafique "Plasmonic devices for Biosensing applications" 2nd International Conference on Materials Science and Nanotechnology at GCUF, Pakistan, 19-21 February 2108.
	2.	Tahir Iqbal, M. B. Tahir, N. R. Khalid, Muhammad Isa Khan, Muhammad Rafique , Ghulam Nabi "Factors affecting coupling Efficiency of Surface Plasmon Polaritons Excited by 1D metallic Gratings: Role of Minimum number of slits" National Conference on New Frontiers in Experimental and Theoretical Physics at Department of Physics, University of Agriculture Faisalabad, Pakistan, 16-17 April 2018.
	3.	M. Rafique , Reena Rashid, "An Alternative Method for Synthesis of Copper Nanoparticles", 1st International Conference on Emerging Technologies for Waste Water and Alternative Energy Processes at University of Gujrat, Gujrat, Pakistan, 1-2 June, 2016.
	4.	M. Rafique , Iqra Sadaf, "Green Synthesis of Silver Nanoparticles", 1st International Conference on Emerging Technologies for Waste Water and Alternative Energy Processes at University of Gujrat, Gujrat, Pakistan, 1-2 June, 2016.