**PhD Scholar Tasaur Hussain**

My name is Tasaur Hussain and I was born the green valley and hearting valley of Kurram Parachinar, Pakistan I'm currently working as a PhD scholar of Physics at National sun yet Sen university Kaohsiung Taiwan and I'm passionate about my hobby or passion and I have many hobbies which include reading books, research activity, growing vegetables, and helping to other for solve their problems.

I'm excited to get to know everyone here! My educational background is from Government High School Zeran Imam Bagh District Kurram Parachinar Pakistan where I did get my early education. Luckily, my hunger for knowledge didn’t a conclusion when I was at school. After the successful completion of pre-university education with distinction, I joined Kohat University of Science and Technology for 2-years bachelor degree program. I studied Physics Mathematics as majors with extensive practical work in various laboratories. It was that fascinating academic years which provoked me to study Physics for further two years in M.Sc. Going through a competitive process I secured admission at Hazara University Mansehra Pakistan in Master of Science (M.Sc.) with Physics as major. I was enthusiastic about math and physics. This enthusiastic assisted me with acquiring a significant information on these area, and I was confessed to the school of my fantasies. I did bachelor degree in nanotechnology and later finished MS from Hazara university Mansehra.

During this studies, I had the opportunity to gain in-depth knowledge of different subject such as mathematical method of physics, solid state Physics quantum physics classical physics, atomic physics, laser physics, nanophysics as well as material science and develop a strong understanding of the principles of physics. This knowledge and experience has been invaluable to me in my career. After completing my Master’s degree, I went on to pursue an MPhil in Physics at Hazara University Mansehra Pakistan. I graduated with in 2021. During my MPhil studies, I had the opportunity to further my knowledge in optics, materials science quantum mechanics laser physics, nanotechnology, solid state physics as well as nanoscience and develop a strong understanding of the principles of polymer and materials physics and their applications in the real world. This knowledge and experience has been invaluable to me in my career.

**Research Project**

During M.Phil.my research work was on nanomaterial and my research title is SYNTHESIS AND

CHARACTERIZATION OF ZnO@TiO2 core-shell nanostructures) by using different techniques (SEM.TEM.EDX.FTIR.XRD) to find their structural size morphology and properties. The Synthesis of ZnO coated TiO2 was characterized by two stages. The first stage was differentiated by preparation of ZnO via chemical precipitation technique. The 2nd stage was distinguished by production of ZnO@TiO2 CSNs. The zinc oxide nanoparticle was prepared by using zinc nitrate hexa hydrate dissolved in pure water by adding sodium hydroxide solution to maintain the ph. ZnO then coated TiO2 by using chemical precipitation method. Prepared nanoparticles study was carried out from different analytical techniques. X-ray diffraction analyses was carried out for four samples for the purpose of crystallite size and crystal structure identification of the nanoparticles. XRD was also used to estimate the crystallite sizes of the calculated samples. The scanning electron microscopy (SEM) was used to generalize the morphology and elemental composition of the samples. Energy-dispersive x-ray spectroscopy (EDX) analysis was used for the purpose of reliable percentage evaluation of the sample. At the end FTIR was used to assess the functional group of sample before and after calcination.

Although I love my current position, I feel I am now ready for a more challenging assignment and the PhD position, I Getting PhD degree will enhance my creative potentials, problem- solving skills and expand my knowledge about molecular and chemical sciences. I strongly desire to explore the area deeper and conduct independent research during my PhD to make innovations. Furthermore, I wish to become expert in the above mentioned field and continue the research work by joining a research group as post- doctoral researcher or as assistant professor where it is a challenging research area. Moreover, the diverse applications and incredible scope of research in the field of physical and material sciences will provide me with a promising and exciting atmosphere. After the completion of doctoral degree, I will move in the direction of contributing more efficiently to human development, in general, and scientific community, in particular. For these reasons, I greatly aspire to pursue PhD studies from a prestigious university.

**Education**

* M Phil in Materials physics, 2021

University of Hazara Pakistan ,

* MSc in Physics , 2018

University of Hazara Pakistan

* BSc in math physics, 2016

Kohat university Pakistan

### Interests

* Terahertz hyperspectral imaging
* Single-pixel cameras
* Compressed sensing
* Femtosecond physical phenomena