HAMMAD SHAUKAT

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SUMMARY

Hammad Shaukat is currently pursuing a Master's degree in Physics, specializing in Particle Physics, with a focus on Experimental High-Energy Physics. He has completed his coursework and is now actively engaged in research in particle physics, aiming to deepen the understanding of fundamental particles and their interactions.

Hammad brings extensive experience from working in the Electrochemical Material Synthesis and Devices Lab and the Center for Micro and Nanodevices Lab, where he contributed to the growth of nanoparticles and explored their applications. He completed his bachelor's degree in Physics with a focus on the fabrication and characterization of inorganic perovskite photodetectors (CsPbBr3), showcasing his expertise in material science and device fabrication.

With 6 years of teaching experience, Hammad is deeply committed to advancing research and contributing to scientific innovation. His passion for learning and sharing knowledge makes him a valuable contributor to both academic and research environments.

WORK EXPERIENCE

School Teacher **Jan 2019 - Aug 2024**

- Taught science subjects, including Mathematics, Physics, and Chemistry, at Educationist Science School, Scheme 7, Rawalpindi.
- Delivered comprehensive science education with a focus on practical applications and subject physics at Majid Public School, Chaklala Scheme 3, Rawalpindi.
- Gained valuable experience in developing and implementing engaging lesson plans, fostering a deep understanding of scientific concepts among students.

College Lecturer **Jan 2023 - Aug 2024**

- Lectured in Physics at Auston College, Chaklala Scheme 3, for 2 years, utilizing innovative teaching methods to enhance student understanding and performance, earning the Best Lecturer Award for exceptional teaching.
- Provided career guidance to students, supporting their academic and professional growth in the field of physics.
- Managed and coordinated teams for academic projects and events, fostering collaboration and leadership among students.

Centre of Micro and Nano Devices (CMND) **Sep 2022 - Sep 2023**

- Conducted research under Dr. Muhammad Fahad Bhopal at COMSATS University Islamabad, specializing in the fabrication and characterization of inorganic perovskite photodetectors (CsPbBr3), achieving high responsivity (0.32 A/W at 5 V) and detectivity (1.8×10^{12} Jones) under visible light.
- Contributed to advanced research on optoelectronic devices, renewable energy materials, and semiconductor nanomaterials, utilizing state-of-the-art facilities to explore the structural and optical properties of CsPbBr3 thin films for cost-effective, high-performance photodetectors.

Electrochemical Material Synthesis and Devices Lab (EMSD) **Sep 2024 - Jan 2025**

- Assisted in the Electrochemical Material Synthesis and Devices Lab at COMSATS University Islamabad, conducted research under Dr. Junaid Ali focusing on the growth of MoS_2 thin films as a 2D material.
- Gained hands-on experience in advanced synthesis techniques and characterization of 2D materials for potential applications in nanodevices and energy-efficient systems.

EDUCATION

Matriculation: Science Education **2016 - 2017**
Allied School Abdul Aziz Campus
- Major in Science.
- Passes with 836/1050 (A Grade)

Intermediate : Pre-Engineering **2018 - 2019**
Punjab College, Morgha Campus
- Major in Science Pre-Engineering.
- Passes with 896/1100 (A+ Grade)

Bachelor of Science in Physics **Sep 2019 - Sep 2023**
Comsats University Islamabad
- Research work in Material Science (Applied Physics).
- Thesis on "Fabrication and characterization of inorganic perovskite photodetectors CsPbBr3".
- 3 CGPA

Masters in Physics **Jan 2024 - Present**
Comsats University Islamabad
- Relevant Research in Particle Physics.
- 4 CGPA

SKILLS

Technical Skills:
- Proficient in MS Word, PowerPoint, and Excel
- Coding: MATLAB, Fortran, Python, C++
- Experienced with Origin Pro, Root CERN
- Photoluminescence Spectroscopy (PL)
- Materials fabrication and characterization
- X-ray diffraction (XRD)
- Scanning Electron Microscope (SEM)
- Atomic force microscopy (AFM)
- HIJING
- Pythia
- Overleaf

Personal Skills:
- Taekwondo practitioner
- Digital Marketing
- IELTS proficiency
- Team management
- Lab work
- Website Developer
- Opportunity Counseling

CERTIFICATE

2014: Taekwondo Competition
2019: Top 3 Creative Social Branding of Influencers
2020: Best Creative Web Designer Competition
2021: Google Cloud Platform Business Professional
2022: James Webb Space Telescope Seminar At Comsats University Islamabad
2023: COMSATS Project & Career Expo 1st Position
2023: PNS Associate Membership
2024: Best Lecturer Award, Auston College
2024: Pakistan Young Innovation Minds Society (PYIMS)
2024: Participate in the Symposium on the World Quantum Day
2024: Seminar on IELTS at Comsats Islamabad
2024: COMSATS University Islamabad and CERN to Strengthen, Expand Collaboration (NCP)
2024: CERN@70: Inspiring the Future
2024: Pak-CERN 70 collaboration event at Heavy Mechanical Complex 3 (HMC)
2024: 13th School on LHC Physics at the National Centre for Physics (NCP)
2025: Participant in Webinar “Erasmus Mundus Scholarship”

CONFERENCES AND SEMINAR

2022: James Webb Space Telescope Seminar at Comsats University Islamabad
2023: 27th Convocation of COMSATS University Islamabad at Jinnah Convention Centre
2024: Participate in the Symposium on the World Quantum Day at Comsats University Islamabad
2024: Seminar on IELTS at Comsats University Islamabad
2024: Seerah Exhibition- The Pearls From The Life Of Prophet Muhammad SAWW at Comsats University Islamabad
2024: MS-Level First Poster Competition at Department of Physics at Comsats University Islamabad
2024: COMSATS University Islamabad and CERN Redefined Academic Alliance
2024: COMSATS Islamabad campus Projects & Career Expo, Fall 2023
2024: COMSATS University Islamabad and CERN to Strengthen, Expand Collaboration at National Center of Physics (NCP)
2024: CERN@70: Inspiring the Future at Comsats University Islamabad
2024: Pak-CERN 70 collaboration event at Heavy Mechanical Complex 3 Taxila (HMC)
2024: 13th School on LHC Physics at the National Centre for Physics (NCP)
2024: Pre-Conference Workshop "Building E-Commerce business around the world" (RWU)
2024: Workshop on Writing Effective Statement of Purpose & Application Statements
2024: Seminar on Fulbright Scholarships Program
2024: GRE Workshop in Islamabad

LANGUAGE

- English
- Urdu
- Punjabi

BS PROJECT THESIS

- Fabrication and Characterization of inorganic perovskite photodetectors CsPbBr3. https://drive.google.com/file/d/1LwLpfX7eq0fS-lBpclb_ng2vm0JfgzGp/view?usp=drive_link

RESEARCH EXPERIENCE

Sep 2022 - Sep 2023
Nov 2024 - Jan 2025

- One year experience of Material Science , Material Fabrication and characterization of inorganic perovskite photodetectors at Centre of Micro and Nano Devices (CMND) Comsats University Islamabad.
- I gained additional 6 months of experience at the Centre of Micro and Nano Devices (CMND), COMSATS University Islamabad, where I worked on micro/nano-scale device fabrication and characterization. This hands-on experience enhanced my technical skills in cutting-edge material science research.

Jan 2024 - Present

- Conducting research in particle physics, focusing on the properties and interactions of fundamental particles using Monte Carlo event generators like HIJING and PYTHIA to simulate proton-proton collisions and analyze charged particle production at various energy levels.
- Actively participating in international seminars and workshops, including those by CERN, HMC3, and NCP, to stay updated on advancements, present research findings, and foster collaborations within the scientific community.

Sep 2024 - Jan 2025

- Assisted in the Electrochemical Material Synthesis and Devices Lab at COMSATS University Islamabad under Dr. Junaid Ali, specializing in the growth of MoS_2 thin films as 2D materials for advanced research.
- Acquired practical expertise in synthesis techniques and characterization of 2D materials, contributing to their potential applications in nanodevices and energy-efficient technologies during a 5-month tenure.

REFERENCES

Dr. Ali Zaman
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