Usman Ali

"M.Phil. Physics"

Laser & Quantum Electronics Lab (32), Physics Department,
Quaid-i-Azam University, Islamabad 45320, Pakistan.
Citizenship: Pakistan | Date of Birth: Nov. 30, 1992 | Gender: Male |
Marital Status: Single | Tel: +92 51 4576662 & Cell: +92 334 5916850 | usmanali@phys.qau.edu.pk

RESEARCH INTERESTS

❖ ***Ultracold Physics, Quantum Optics and Information, Condense Matter Physics***

- *Ultrafast transport in Periodically Driven Systems*
- *Continuum/Lattice Thermodynamics*
- *Dynamical Interplay b/w Ultracold Gases and Condense Matter Systems*
- *Entanglement Dynamics of Kicked Models*

❖ ***Machine Learning, Open Source Scientific Tools, GPU Computing***

- *Keen Interest in learning new Computational Skills*
- *Neural Networks, Learning Algorithms*
- *Interplay b/w Machine Learning and Quantum Computing*

ACADEMIC QUALIFICATIONS

❖ **Master of Philosophy (MPhil) in Physics, QUAID-I-AZAM UNIVERSITY, Islamabad Pakistan**–
February 2016 – December 2018.

- *Field of Specialization: Ultracold Atomic Physics/Condense matter Physics*
- *Advisor: Prof. Dr. Farhan Saif*
- *Thesis Title: Wave Packet Dynamics in Parabolic Optical Lattice*
- *Grades: CGPA = 4.0 (Excellent)*

❖ **Bachelor of Education (B.Ed. Science Education) – ALLAMA IQBAL UNIVERSITY, Islamabad, Pakistan.** November 2015 – January 2017.

❖ **Master of Science (M.Sc. Physics) – UNIVERSITY OF THE PUNJAB, Lahore, Pakistan**
September 2013 – November 2015.

❖ **Bachelor of Science (B.Sc. Math-Physics) – UNIVERSITY OF THE PUNJAB, Lahore, Pakistan**
November 2010 – August 2013.

SCHOLARSHIPS & DISTINCTIONS

❖ **02/2017 – to date** **Higher Education Commission Scholarship ("HEC – Research Scholar")**

- *Awarded on 2017 for High aggregate in HEC Graduate Assessment Test (HAT), Funded by Government of Pakistan.*
- ***99.02 Percentile** in National Graduate Assessment Test (GAT- General)*

❖ **02/2016 – 12/2018** **University Merit Scholarship**

- *Awarded by QUAID-I-AZAM University, Pakistan for maintaining 3rd Position, attained in M.Phil. Physics Admission Test, in each of the semester.*
- *Overall **3rd Position in M.Phil. Physics** with second highest Grade Points for Research Dissertation (**86%**).*

PREPRINTS

- Usman Ali, Sara Medhat and Farhan Saif, "*Dynamics of Ultracold atoms in Parabolic Optical Lattices*". ***Submitted**, (2019)*
- Usman Ali and Frahan Saif, "*Collapse and revival of coherence in Parabolic Optical Waveguide Arrays*". ***To be Submitted***
- Usman Ali, Sara Medhat, Abid Ali and Farhan Saif, "*Entanglement dynamics of a conditionally kicked membrane in double cavity opto-mechanics*". ***To be Submitted***

RELEVANT COURSE HIGHLIGHTS

Sr.	Course Name	Percentage Marks
1	Quantum Optics-I	90
2	Quantum Information Theory-I	76
3	Advanced Quantum Mechanics	66
4	Methods of Mathematical Physics	80
5	Electrodynamics-I	69
6	Statistical Physics (MSc)	78
7	Solid State Physics-I (MSc)	82
8	Quantum Mechanics (MSc)	97

WORK EXPERIENCE

- **09/2015 – 09/2016** **TEACHING**
  - *I have served over a year teaching High School physics, as a **Physics Lecturer**, At OPF Boys College, Islamabad, Pakistan.*
- **08/2014 – 02/2015** **DIGITAL MARKETING**
  - *I joined I-Gate Technologies, Pakistan during semester break in M.Sc., as a **Search Engine Optimization (SEO) Executive** and worked on the main website of RDXSports, which is the leading sports Brand across the globe.*
  - *Some other projects done includes Keyword Optimization for Amcosoft.*

SKILLS & ABILLITIES

Communications Skills

- ✓ Exceptional listener and communicator who effectively conveys information verbally and in writing.
- ✓ Institutional Certificates in English.

Analytical/Research Skills

- ✓ Highly analytical thinking with demonstrated talent for identifying, scrutinizing, improving, and streamlining complex work processes.

Computer/Technical Literacy

- ✓ Computer-literate performer with extensive software proficiency covering wide variety of applications.
- ✓ SEO, SMO, PPC, DMT, Google Analytics, Webmaster, **Python, MATLAB**, Linux.

Problem-Solving/Reasoning/Creativity

- ✓ Innovative problem-solver who can generate workable solutions with proven team working skills.
- ✓ Well-developed analytical & problem solving abilities.

SELECTED FORMATIONS ATTENDED

1. ***International Nathiagali Summer College*** *on Physics and Contemporary Needs (2017). Scientific Activity IV: Quantum Information and Devices*
   Duration: 1 month at National center of Physics, Islamabad, Pakistan.
2. ***International Workshop on Optics and Photonics*** *(2018).*
   Duration: 1 week. Department of Physics, Quaid-i-Azam University, Islamabad, Pakistan.
3. ***National Workshop on Optics of An-isotropic Media and Metamaterials*** *(2019) Duration: 1 week. Department of Electronics, Quaid-i-Azam University, Islamabad, Pakistan.*
4. *Conference on* ***Structural phase transitions*** *(2018) by Prof. Dr. Khurshid Husnain, National Center of Physics (NCP), Islamabad, Pakistan.*
5. *Seminar on* ***Tools made of Light: 2018 Nobel Prize.*** *(2018) Dr. Khalid Naseer, Kahuta Research Laboratories (KRL), Islamabad, Pakistan.*
6. *One day Conference on* ***Quantum Lithography with Classical Light*** *(2018) by Prof. Dr. Sohail Zubairy, Texas A&M University (TAMU), Qatar.*
7. *Seminar titled* ***From Deep digging to deep Learning.*** *(2019) Dr. Shahid Qamar, University of Louisville (UofL), Kentuchy, USA.*

LANGUAGE SKILLS

- *English: (Certificate IELTS Academic Score = 7 Bands)*
- *German / Deutsch: (Level = A1)*
- *Arabic: Basic - Urdu: Mother Tongue*

REFERENCES

❖ **Prof. Dr. Farhan Saif**
Tenured Professor, Department of Physics
Quaid-i-Azam University, Islamabad, Pakistan.
https://www.qau.edu.pk/profile.php?id=810003

❖ **Prof. Dr. Muhammad Khalid Khan**
Professor, Department of Physics
Quaid-i-Azam University, Islamabad, Pakistan.
https://www.qau.edu.pk/profile.php?id=818001

❖ **Dr. Shahin Iqbal**
Senior Scientific Officer, National Center of Physics, Shahdrah Valley Road, Islamabad Pakistan. Mail: Smi6nd@virginia.edu

❖ **Dr. Naveed Zafar Ali**
SALSA-Postdoctoral Fellow,
Humboldt University of Berlin, (BAM)-Adlershof.
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