

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 |

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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

❖ 02/2016 – 02/2018 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, “Wave packet dynamics in Parabolic Optical Lattices: Bloch oscillations to quantum revivals”. **Submitted**, J. Russ. Las. Res. (January, 2019)
- ❖ Usman Ali, Sara Medhat, Abid Ali and Farhan Saif, “Entanglement dynamics of a conditionally kicked membrane in double cavity opto-mechanics”. **Submitted**, Sci. china Phys. Mech. Astron. (July, 2019)
- ❖ Usman Ali and Frahan Saif, “Collapse and revival of Dipole and Bloch dynamics in Parabolic Optical Waveguide Arrays”. **To be Submitted** J. Opt. Soc. Am. B (2019)

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 & ABILITIES

Communications Skills

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

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.

Analytical/Research Skills

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

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), Kentucky, USA.

LANGUAGE SKILLS

- English: (Certificate [IELTS Academic](#) Score = 7 Bands)
- Arabic: Basic - Urdu: Mother Tongue

REFERENCES

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| ❖ Prof. Dr. Farhan Saif
Tenured Professor, Department of Physics
Quaid-i-Azam University, Islamabad, Pakistan.
https://www.qau.edu.pk/profile.php?id=810003 | ❖ Dr. Shahin Iqbal
Senior Scientific Officer, National Center of Physics, Shahdrah Valley Road, Islamabad Pakistan. Mail: Smi6nd@virginia.edu |
| ❖ 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. Naveed Zafar Ali
SALSA-Postdoctoral Fellow,
Humboldt University of Berlin, (BAM)-Adlershof.
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