

Muhammad Kamran

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EDUCATION

PhD Electrical Engineering 2015-2020

Specialization: Optics, Photonics, Computational Electromagnetics,
Lahore University of Management Sciences (LUMS), Lahore, Pakistan.

M.Phil Electronics 2013-2015

Specialization: Electromagnetics, Inverse scattering problems
Quaid-i-Azam University, Islamabad, Pakistan.

M.Sc Electronics 2010-2012

Major in Electronics
Quaid-i-Azam University, Islamabad, Pakistan.

B.Sc Mathematics and Physics 2006-2008

Major in Mathematics and Physics
University of the Punjab, Lahore Pakistan.

EXPERIENCE

Assistant Professor (IPFP): Department of Physics, International Islamic
University, Islamabad, Pakistan. (January 12, 2022 – Till date).

Consultant R&D: Center of Advanced Studies in Health and Technology
(CASHT), Rawalpindi, Pakistan. (9 October– 20 September, 2021).

Research Assistant: Department of Electrical and Computer Engineer-
ing, Michigan State University, MI, USA (Under IRSIP) (30 December,
2019 –7 May, 2020).

Research Assistant: Higher Education Commission (HEC), Pakistan,
Project (Grant No. NRPU 2016-5905), Lahore University of Manage-
ment Sciences (LUMS), (March 2018–November 2019).

Teaching Assistant: Department of Physics, LUMS (Fall-2017).

Completed internship under the National Internship Program at the De-
partment of Electronics, Quaid-e-Azam University, Islamabad. (Decem-
ber 2012–December 2013) (Research Assistant).

Completed an internship at National Institute of Electronics, Ministry of Science and Technology, Islamabad from May 1st, 2012 to May 31st 2012. I was engaged in the projects like energy audit, power factor controlling, solar panels, large scale electronic display, solar and low power based LEDs.

PUBLICATIONS

1. U. B. Qasim, H. Imran, M. Kamran, M. Faryad, and N. Z. Butt, Computational study of stack/terminal topologies for perovskite based bifacial tandem solar cells, *Solar Energy*, 203, 1–9 (2020).
2. M.Kamran and M.Faryad, Anti-reflection coatings of zero-index metamaterial for solar cells, *AIP Advances*, 10, 025010 (2020).
3. M.Faryad, M.Kamran, and M. Rasheed, Surface plasmon-polariton waves propagation and excitation along the direction of periodicity of the one-dimensional photonic crystal, *Bulletin of the American Physical Society*, (2020).
4. M.Kamran and M.Faryad, Excitation of surface plasmon polariton waves along the direction of periodicity of a one-dimensional photonic crystal, *Physical Review A*, 99, 053811 (2019).
5. M.Kamran and M.Faryad, Plasmonic sensor using a combination of grating and prism couplings, *Plasmonics*, 14, 791–798 (2019).
6. H.Imran, I.Durrani, M.Kamran, T.M.Abdolkader, M.Faryad, and N.Z.Butt, High-performance bifacial Perovskite/Silicon double-tandem solar cell, *IEEE Journal of Photovoltaics*, 8, 1222–1229 (2018).
7. M. Kamran, M. A. Fiaz, and M. A. Ashraf, Use of chiral coating to reduce RCS of PEC cylinder buried beneath a sinusoidal surface, *Optik*, 127, 1546–1552 (2016).

PROFESSIONAL TRAINING

Completed one month training for effective teaching and research genesis under Interim Placement of Fresh PhDs (IPFP). This training is arranged by National Academy of Higher Education (NAHE), HEC. (20 September, 2021 – 22 October, 2021)

INTERNATIONAL CONFERENCES AND WORKSHOPS

1. Attended PhD Summer School on “Surface Plasmon Photonics” held on 24–26 May, 2019, at Faculty of Engineering, University of Southern Denmark (SDU), Odense, Denmark.

2. Attended The 9th International Conference on Surface Plasmon Photonics (SPP9) and presented my abstract “A combination of grating and prism for optical sensing” held on 26–31 May, 2019, Copenhagen, Denmark.

RESEARCH PROJECTS

Short Term Research Scholar: Department of Electrical and Computer Engineering, Michigan State University, MI, USA. I was Working with Prof. Shanker Balasubramaniam. We were working on the computational solution of Monge Ampere equation for the inverse reflector design.

Higher Education Commission (HEC), Pakistan, Project (Grant No. NRP/2016-5905): Design and implementation of light-trapping coatings for thin-film solar cells using effective zero-index photonic crystals.

PhD Dissertation: Applications of coupled-wave approach for 1D gratings illuminated from planar interface (2020).

M.Phil Dissertation: Inverse scattering problems involving rough surface and buried object (2015).

TECHNICAL SKILLS

Software: MATLAB, C/C++, LabVIEW, L^AT_EX, Python, Microsoft Office, FORTRAN, Microprocessor assembly language

Instruments: Scanning electron microscope (SEM), Electron-beam lithography, Spin Coating, Temperature Controller, Lock-in-Amplifier, Data Acquisition Systems (DAQ), Optical instruments.

COURSES TAUGHT

Digital Electronics (Fall-22)
Electronics Lab (Fall-22)
Electrical Instrumentation and Measurements (Spring-21)
Industrial Electronics Technology (Spring-21)
Applied Physics (Fall-20)
Electromagnetic Field Theory (Fall-20)

Teaching Assistant:

Electrodynamics (Fall-17)
Photonics Fundamentals (Fall-17).

LEADERSHIP SKILLS

Founding President SPIE Student Chapter LUMS (2018-19)

Event Organizer SPIE Student Chapter, Quaid-i-Azam University (2014–15)

Co-Organizer of Spring School on Optics at LUMS, held on 30 April– 1 May, 2016

Co-Organizer in IYL SPIE Student Conference 2015, Presented my research work in IYL SPIE Student Conference 2015, held at QAU Islamabad, 28–30 April, 2015.

Co-Organized and participated in Short Course on Surface Multi-Plasmonics: Fundamentals and Application for Solar Energy Harvesting, 27–30 January, 2014.

Event Organizer Electronics Student Society (ESS), Department of Electronics, Quaid-i-Azam University (2011–12)

PERSONAL INFORMATION

Nationality	Pakistani
Date of Birth	12 November, 1987
Passport No.	DF4224031
CNIC No.	61101-2109403-3
Marital Status	Married (Kids: One daughter and one son)

REFERENCES

Dr. Muhammad Faryad
Assistant Professor and Chair
Department of Physics, Lahore University of Management Sciences,
Lahore, Pakistan.
Email: muhammad.faryad@lums.edu.pk

Dr. Qaisar Abbas Naqvi
Professor
Department of Electronics, Quaid-i-Azam University,
Islamabad, Pakistan.
Email: qaisar@qau.edu.pk