



FAYZAN AHMED

Lecturer / Physicist

"I aspire to leverage my creativity and innovative thinking in a dynamic professional environment within a growing organization. This endeavor aims to foster my academic and personal growth while benefiting the organization."

Academic & Professional Experience

July 2022 – **NED University of Engineering & Technology, Karachi, Pakistan.**

Present Lecturer in Department of Physics

- Courses taught [**Applied Physics, Solid State Physics, Mathematical Physics, Nuclear Physics, Optical Physics & Lasers**]
- Undergraduate Level Laboratory instructor

FYDP Undergraduate & Masters Project

- Prediction of High Energy Levels for Rydberg Atoms within Boron Family Based on WBEPM **Co-Supervisor**
- Estimation of patient radiation dose undergoing 2D x-ray based diagnostic imaging using DAP and OSLDs **Co-Supervisor**
- Treatment planning: Comparison of intensity-modulated radiation therapy (IMRT) VS. volumetric-modulated arc therapy (VMAT) in esophageal cancer **Supervisor-2023**
- Verification of radiation shielding calculations for Computed Tomography (CT) bunker **Supervisor-2023**

June 2017 – **Liaquat National Hospital (LNH), Karachi, Pakistan.**

July 2022 Medical Physicist and Radiation Protection officer (RPO)

- Supervising operational aspects of radiation protection program
- Identify deficiencies in compliance with the radiation protection program and report to the executive director and the radiation protection committee
- Co-operating with the Pakistan Nuclear Regulatory Authority (PNRA) officers and facilitating internal and external audits. Contributing to the planning and design of any new or modified radiation facility

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- Developing QA and QC program for the diagnostic facility and overall quality improvement regarding equipment, including Nuclear Medicine
 - Conducting Physics and radiation protection module classes for Radiology residents, technologists, and other radiation-related hospital staff
- Aug 2016 – **Army Public School & College Saddar (APSC), Karachi, Pakistan.**
 June 2017 Lecturer at Department of Physics
- Teaching Physics courses at intermediate level Federal board and Karachi board
 - In charging Co-curricular activities
- Aug 2014 – **Aga Khan University Hospital (AKUH), Karachi, Pakistan.**
 Aug 2016 Trainee Medical Physicist at Department of Oncology, Section Radiation Oncology
- Coursework includes (physics, radiological sciences, imaging, methodology, dosimetry, anatomy and physiology, oncology and protocols are in progress)
 - Quality assurance on weekly, monthly and annually of (2 VARIAN LINACS photons and electrons beam)
 - Research Projects
- Sept 2013 – **Benign Educational Legates (BEL) College, Karachi, Pakistan.**
 July 2014 Lecturer at Department of Physics
- Teaching Physics courses at intermediate level Karachi board

Education

- 2016 - 2021 **MPhil, University of Karachi, Karachi, Sindh.**
 Physics
- 2008 - 2012 **B.S, University of Karachi, Karachi, Sindh.**
 Physics
- 2006 - 2008 **Intermediate, Pre-Engineering, Intermediate Board of Karachi.**
- 2004 - 2006 **Matriculation, Science, Secondary Board of Karachi.**

E-Education

- RADIATION PROTECTION DURING C-ARM FLUOROSCOPY **International Atomic Energy Agency (IAEA)**
- CS191x QUANTUM MECHANICS AND QUANTUM COMPUTATION **University Of California (Berkeley)** through **EDX**
- Stat2.1 INTRODUCTION TO STATISTICS **University Of California (Berkeley)** through **EDX**
- 6.002x CIRCUITS AND ELECTRONICS **Massachusetts Institute of Technology (MIT)** through **EDX**
- 8.02x ELECTRICITY AND MAGNETISM **Massachusetts Institute of Technology (MIT)** through **EDX**

Publications

- 2023 **Teaching physics using Microsoft Excel-II** *Uddin, Zaheer and Razzak, Atteeq and Ahmed, Fayzan and Iqbal, Majid*, Physics Education, 58(5).
055001, 2023, IOP Publishing
- 2022 **SIR Model and COVID-19 Data-Based Numerical Ro Estimation for Pandemic Modeling** *Ahmed, Fayzan and Iqbal, Majid and Iqbal, Arshad and Uddin, Zaheer*, Sir Syed University Research Journal of Engineering & Technology, 12(2).
39–45, 2022
- 2020 **Teaching physics online through spreadsheets in a pandemic situation** *Iqbal, Majid and Ahmed, Fayzan and Iqbal, Arshad and Uddin, Zaheer*, Physics Education, 55(6).
063006, 2020, IOP Publishing
- 2019 **Estimation of external dose rates from nuclear medicine imaging patient** *Fayzan Ahmed, Majid Iqbal, Syed Ghayour Abbass, Naseem Ahmed, Dr. Mansoor Naqvi, Zaheer Uddin*, 2nd Annual National Symposium on International Day of Medical Physics, Dr Ziauddin Hospital, 2019.
Poster Presentation
- 2018 **Performance Assessment of Clinical Technetium-99m Generator by Moly Assay Test in a Tertiary Care Hospital** *Ahmed, Fayzan and Iqbal, Majid and Iqbal, Javaid and Abbass, Syed Ghayour and Ahmed, Naseem and Mansoor, Ayub*, Journal of Health, Medicine and Nursing, 55.
1–4, 2018, International Institute for Science, Technology and Education (IISTE)
- 2017 **Molybdenum-99 breakthrough assay of radionuclide generator: Clinical findings at LNH, Karachi** *Ahmed, Fayzan*, 33rd Radiological Annual Conference, 2017.
Poster Presentation
- 2015 **Quality Assurance Method to Analyse the Scanner Response and Film Uniformity in Film Dosimetry** *Ahmed, Fayzan and Jangda, Abdul Qadir and Saeed, Saad Bin and Laghari, Imtiaz Ali and Hussain, Amjad*, 18th National Health Sciences Research Symposium, 2015.
Poster Presentation

Conferences and Seminars Attended

- Sept, 2023 **Workshop on**, THESIS AND RESEARCH WRITING IN \LaTeX , organized by.
IEEE Education Society Karachi Section, In Collaboration with SIREN, Government of Sindh
- July, 2023 **Participation in**, INTERNATIONAL SYMPOSIUM ON ARTIFICIAL INTELLIGENCE MEDICAL IMAGING AND PATTERN RECOGNITION (ISAIMP-2023), organized by.
Artificial Intelligence Technology Centre (AITeC), National Centre for Physics (NCP)
- July, 2023 **Participation in**, 3rd Dr. RIAZ-UD-DIN MEMORIAL SCHOOL ON PHYSICS 2023, organized by.
Department of Physics, University of Agriculture Faisalabad, Punjab, Pakistan

- Jan, 2023 **Participation in**, Training on FACULTY DEVELOPMENT PROGRAM, organized by.
Quality Enhancement Cell (QEC), NED University of Engineering & Technology
- Nov, 2022 **Participation in**, 5th ANNUAL NATIONAL CONFERENCE ON IDMP, organized by.
Dr. Ziauddin Hospital and University
- Oct, 2022 **Moderator course on**, COMPUTED TOMOGRAPHY AND INTERVENTIONAL RADIOLOGY, organized by.
South Centre for Medical Physics and Cancer Research (SCMPCR)
- July, 2022 **Participation in**, 2nd Dr. RIAZ-UD-DIN MEMORIAL SCHOOL ON PHYSICS 2022, organized by.
Department of Physics, University of Agriculture Faisalabad, Punjab, Pakistan
- May, 2021 **Facilitator in 5 days course on**, ENHANCING CLINICAL EFFICIENCIES OF NURSES IN CATH LAB, organized by.
LIQUAT NATIONAL HOSPITAL & MEDICAL COLLEGE
- Apr, 2021 **Participation in**, 7th NATIONAL CONFERENCE OF Pakistan Society of Nuclear Medicine, organized by.
Pakistan Society of Nuclear Medicine (PSNM)
- Nov, 2019 **Participation in**, 2nd ANNUAL NATIONAL SYMPOSIUM OF MEDICAL PHYSICS, organized by.
Dr. Ziauddin Hospital and University
- May, 2019 **Participation in**, RADIATION PROTECTION FOR HEALTH CARE PROFESSIONALS, jointly organized by.
Pakistan Nuclear Regulatory Authority (PNRA) and Aga Khan University Hospital (AKUH)
- Dec, 2018 **Participation in**, 6th NATIONAL CONFERENCE OF Pakistan Society of Nuclear Medicine, organized by.
Pakistan Society of Nuclear Medicine (PSNM)
- Sept, 2018 **Workshop on**, RADIATION SAFETY & QUALITY ASSURANCE IN MEDICAL IMAGING, jointly organized by.
Pakistan Nuclear Regulatory Authority (PNRA) and Aga Khan University Hospital (AKUH)
- March, 2018 **Training Workshop on**, RADIATION SHIELDING & CALCULATIONS FOR EXPOSURE ROOMS OF MEDICAL FACILITIES, organized by.
Pakistan Nuclear Regulatory Authority (PNRA)
- March, 2018 **3rd Medical Physics Workshop on**, RADIATION PROTECTION IN THE DESIGN OF RADIOTHERAPY FACILITIES, organized by.
Department of Radiation Oncology, Dr. Ziauddin Cancer Hospital
- Jan, 2018 **Workshop on**, EXCEL SPREADSHEETS FOR NON-PROGRAMMERS SCIENTISTS, organized by.
Department of Physics, University of Karachi (UoK)
- Jan, 2018 **Workshop on**, CURRENT TRENDS & TECHNOLOGIES IN MEDICAL PHYSICS, CANCER IMAGING & TREATMENT, jointly organized by.
American Association of Physicists in Medicine (AAPM) and Jinnah Post Graduate Medical Center (JPMC)

- Oct, 2017 **Participation in**, 17th ANNUAL RADIOLOGICAL CONFERENCE, organized by. Radiological Society of Pakistan (RSP)
- Oct, 2017 **Workshop on**, IMPROVE SAFETY ASSESSMENT OF RADIOTHERAPY FOCUSING ON GAMMA KNIFE, CYBER KNIFE & LINAC STEREOTACTIC, jointly organized by. Pakistan Nuclear Regulatory Authority (PNRA) and International Atomic Energy Agency (IAEA)
- Oct, 2017 **Training course on**, MEDICAL RESPONSE DURING A NUCLEAR OR RADIOLOGICAL EMERGENCY, organized by. Pakistan Nuclear Regulatory Authority (PNRA)
- Aug, 2014 **Participation in**, 3rd Medical Physics CME workshop on INTENSITY MODULATED RADIATION THERAPY (IMRT), organized by. Aga Khan University Hospital (AKUH)
- Jan, 2013 **Participation in**, Virtual workshop on SCIENTIFIC WRITING, organized by. Latif Ebrahim Jamal National Science Information Center(LEJNSIC)

Distinction and Awards

- 2nd ANNUAL NATIONAL SYMPOSIUM OF MEDICAL PHYSICS organized by Dr. Ziauddin Hospital and University **1st Prize in Poster Competition**
- B.S. Physics from University of Karachi (UoK) **First Stand First**

Skills

Programming Languages/ Softwares

Eclipse and Acuity (Varian)	Adobe Photoshop	Mephysto (PTW)
Microsoft Office	MATLAB	L ^A T _E X

Personal Skills

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| - Efficient time management | - Quick learner |
| - Good problem solving skills | - Team player |

Area of Interest

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| - Physics | - Medical Physics |
| - Computational Physics | - Mathematical Modelling |
| - Nuclear Physics | |

Languages

English

Read, Write, Speak

Urdu

(Mother Tongue) Read, Write Speak

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Interests

- Reading books
- Listening to music
- Writing
- Internet Surfing

Personal Details

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Father Muhammad Ahmed
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