



Curriculum Vitae
of
Prof. Dr. Abdus Sattar Mollah
73 Kha, Green Road, Flat #4/804,
Eastern Panthagreen, Dhaka-1215, Bangladesh.

Personal Information:

Date of Birth : **November 01, 1954**
Marital Status : Married
Nationality : Bangladeshi
Religion : Islam
E-mail: mosattar54@gmail.com; Cell: 88-01552316781;

Education (Post-graduate):

1996 Ph.D. (Nuclear Physics) Department of Physics, Bangladesh University of Engineering and Technology (BUET), Dhaka.
1987 M. Phil. (Nuclear Physics) Department of Physics, BUET, Dhaka.
1976 M. Sc. (Thesis in Nuclear Physics) Department of Physics, University of Dhaka.
1983 M. Sc. (Applied Mathematics) Department of Mathematics, University of Dhaka.

Current Research Activities: Simulation of reactor core with OpenMC, Serpent, SuperMC, MCNP, Geant4, Ansys, and Comsol, development of radiation shielding materials, TLD materials, Cladding materials, spent fuel cask design and structural analysis, development of reference materials, design of IoT based robotic radiation monitoring system

Academic Experience:

July 2015-present: Professor, Department of Nuclear Science and Engineering, MIST, Dhaka.
April'14-June'15: Professor and Head, Department of Medical Physics, Khwaja Yunus Ali University (KYAU), Enayetpur, Sirajgonj.
June'14-June'15: Dean, School of Science and Engineering, KYAU.
Dec.'12-March'15: Part-time Teacher, Department of Nuclear Engineering, University of Dhaka.
1988-2002: Part-time Teacher, Department of Physics, BUET, Dhaka.
1999-2011: Guest Teacher, Institute of Nuclear Medicine and Ultrasound, BSMMU, Dhaka.
2006-2012: Guest Teacher, National Institute of Cancer Research and Hospital, Dhaka.
2002-2009: Guest Teacher, Bangladesh College of Physicians and Surgeons (BCPS).
2009-2012: Guest Teacher, National Institute of Mass Communication (NIMCO).
2008-2014: Guest Teacher, Network of Instrument Technical personnel and User scientists of Bangladesh (NITUB).
2013-2016: Part-time Teacher, Department of Bio-Medical Physics and Technology, University of Dhaka.
August 2014: Invited Speaker, School on Ionizing Radiation and Protection of Environment, Bonn, Germany.

Responsibilities at the MIST:

Prepare course materials like syllabi, homework assignments, and handouts; Maintain regularly scheduled office hours to advise students; Plan, evaluate, and revise curricula, course content, and course materials, methods of instruction; Maintain student attendance records, grades, and other required records; Plan and development of different nuclear laboratories; Keep abreast of developments in the field of nuclear science and engineering by reading current literature; Supervise students laboratory work; Reviewer for various conferences and journals, Reviewer for B.Sc. and M. Sc. thesis, Member of different departmental Committees.

Course(s) Taught at the MIST:

A. BSc in NSE/BME

- NSE153: Fundamental of Nuclear Physics (L1 T2 2015, 16, 17, 18, 19, 20)
- NSE201: Neutron Transport and Reactor Physics (L2, T1, 2016, 2017, 2018, 2019, 2020)
- NSE101: Introduction to Nuclear Science and Engineering (L1, T1, 2016)
- NSE262: Modeling and Simulation Sessional (L2,T2, 2016, 2017, 2021, 2022)
- NSE 274: Radiochemistry Sessional (L2 T1, 2021)
- NSE307: Health Physics (L3, T1, 2017)
- NSE308: Health Physics-Sessional (L3, T1, 2017, 2018, 2019, 2020)
- NSE302: Radiation detection and measurements-Sessional (L3, T1, 2023, 2024)
- NSE309: Nuclear Fuel Cycle and Radioactive Waste Management (L3, T1, 2020, 2021, 2022)
- NSE317: Nuclear Security and Safeguards (L3, T2, 2018)
- NSE401: Nuclear Power Plant Engineering (L4, T1, 2020)
- NSE403: Nuclear Power Plant Engineering (L4, T1, 2021, 2022, 2023)
- NSE409: Non-destructive Testing and Machine Conditioning (L4, T1, 2020)
- NSE407: Non-destructive Testing and Evaluation (L4, T1, 2021)
- NSE413: Environmental Monitoring (L4, T1, 2018, 2019, 2020)
- NSE453: Environmental Monitoring (L4, T1, 2022)
- NSE433: Fusion Engineering (L4, Supplementary, 2019)
- NSE435: Radiation Physics (L4, T2, 2018, 2019, 2020)
- NSE436: Radiation Physics-Sessional (L4, T2, 2018, 2019, 2020)
- NSE453: Engineering of Nuclear Power Systems (L4, T2, 2020)
- BME405: Scintigraphy, SPECT and PET in Nuclear Medicine (L4, T1, 2018)
- NSE481: Radiation Interaction and Shielding (L4 T2 2021, 2022, 2023)
- NSE475: In-core Fuel Management (L4 T2 2021, 2022, 2023)
- NE105: Fundamentals of Atomic and Nuclear Physics (L1 T2 2021)
- NE 204: Radiochemistry Sessional (L2 T1, 2022)
- NE 244: Heat Transfer Sessional (L2 T1, 2022)
- NSE 420: Nuclear Reactor Laboratory (L4 T1, 2022, 2023)
- NE426 : Nuclear Reactor Design and Features Sessional (L4 T1, 2024)
- GESL 221: Environment, Sustainability and Law (L2 T2, 2022, 2023)
- NE305: Nuclear Reactor Thermal Hydraulics, (L3, T1, 2023, 2024)
- GERM 352: Research Methodology (L3 T2, 2023, L2 T2, 2024)
- NE409: Nuclear Fuel Cycle and Radioactive Waste Management (L4, T1, 2024)
- NE413: Medical Application of Nuclear Technology (L4, T1, 2024)
- NSE153: Fundamentals of Atomic and Nuclear Physics (Retake course 2024)
- NSE475: In-core Fuel Management (Retake course, April 2024)
- NSE429: Reactor Design Features II (Retake course, April 2024)

- NSE403: Nuclear Power Plant Engineering (Retake course, April 2024)
- NE459 : Computational Fluid Dynamics (CFD) (December 2024)
- NE423: Nuclear Power Operation and In-core Fuel Management (December 2024)
- NE428 : Nuclear Power Plant Engineering Sessional (December 2024)

B. MSc & PhD in NSE

- NSE6007: Nuclear Safeguards, Safety, Security, Policies & Regulations (2016, 2017, 2019)
- NSE6004: Radiation Detection, Measurement and Radiation Protection (2016, 2019, 2020, 2021, 2023)
- NSE6002: Advanced Nuclear Science and Engineering (2016, 2018, 2019, 2020, 2021, 2022, 2023)
- NSE6008: Reactor Physics and Neutronics (April semester 2020)
- NSE6018: Medical Application of Nuclear Technology (2017, 2018, 2019)
- NSE6003: Nuclear Power Engineering System and Thermal Hydraulics (2024)
- NSE6028: Energy Engineering (October semester, 2019, 2024)

Responsibilities at the KYAU:

Manage faculty in various academic departments and interdisciplinary programs throughout the School of Science and Engineering. Supervise faculty hiring, reviews, and academic activities of the departments. Establish programs to orient new faculty and promote their early careers. Serve on academic or administrative committees that deal with institutional policies, departmental matters, and academic issues; Prepare course materials like syllabi, homework assignments, and handouts; Maintain regularly scheduled office hours to advise students; Supervise undergraduate or graduate teaching and research work; Keep abreast of developments in the field by reading current literature; Plan, evaluate, and revise curricula, course content, and course materials, methods of instruction; Maintain student attendance records, grades, and other required records; Supervise students laboratory work.

Courses Taught at the Khwaja Yunus Ali University:

- MP501: Fundamental Radiation Physics for MS in Medical Physics
- MP504: Radiotherapy Equipment and Oncology Physics for MS in Medical Physics
- MP603: Radiological mathematics and statistics for MS in Medical Physics
- MP508: Physics in Medical Imaging for MS in Medical Physics
- MP509: Radiation Dosimetry and Standardization for MS in Medical Physics
- MP511: Physics of Brachytherapy for MS in Medical Physics
- PHY107: Physics-I for B.Sc. Textile Engineering with Lab
- MATH103: Mathematics-I for B. Sc. Textile Engineering
- MP505: Practical for MS in Medical Physics
- MP507: Medical Physics Residency Training Program for MS in Medical physics

Courses Taught at the University of Dhaka:

- MNE507: Health Physics and Radiation Science (Department of Nuclear Engineering)
- BPT-M_02: Bio-Physics and Medical Radiation Physics (Department of Bio-Medical Physics and Technology)
- BPT-M_14: Radiation Biology, Dosimetry& Protection (Department of Bio-Medical Physics and Technology)
- BPT-M_11: Radiation Biology & Oncology Physics(Department of Bio-Medical Physics and Technology)

Courses Taught Elsewhere (BAEC, BUET, BCPS, NICHR, BINA, NITUB, NIMCO):

Radiation Protection, Nuclear Physics, Physics of Radiotherapy, Physics of Radiology, Basic Radiation Physics, Radiation Dosimetry, Radioactive Waste Management, Nuclear Safety, Nuclear Safeguards

and Security, Nuclear Power, Reactor Physics, NDT, Nuclear Analytical Technique, Nuclear Regulations.

Lecture Delivered in Training courses

- Delivered lectures regularly on Health Physics and Radiation Protection among the participants of the Nuclear Orientation Course (a regular course for newly recruited scientists) arranged by Bangladesh Atomic Energy Commission, Dhaka (1998-2011).
- Conducted 18 **Radiation Control Officers (RCOs) Courses** (1999-2002) as **Course Coordinator** and delivered many lectures on radiation protection/waste safety to the course participants (Course organized by BAEC).
- Conducted **74 Radiation Control Officers (RCOs) Courses** (2003-2008) as **Course Director** and delivered many lectures on radiation protection/waste safety/radiation to the course participants (Course organized by NSRCD).
- Organized IAEA/RCA Regional Training Course on Radiation Protection in Industrial Radiography as **Course Director-cum-Finance Officer** and delivered lectures on radiation protection to the course participants, 16-20 August, 2004, Dhaka, Bangladesh.
- Organized IAEA/RCA Regional Training Course on “Radiation Safety for Control of Public Exposure, Including Management of Radioactive Waste” as **Course Director-cum-Finance Officer** and delivered lectures on Radioactive Waste Management to the course participants, 11-15 June 2007, Dhaka, Bangladesh.
- Delivered many lectures on Non-ionizing Radiation (RF radiation, EMF radiation, laser etc.) to the course participants, training course organized by National Institute of Mass Communication/Regional Training Centre of Bangladesh Power Development Board/ Network of Instrument Technical Personnel and User Scientists of Bangladesh (2002-2013).
- Delivered many lectures on radiation safety/health physics to the participants of NDT course (Radiography Level I & II /Foundation course- organized by the Bangladesh NDT Society) (1998-2009).
- Delivered many lectures on radiation safety/health physics to the participants of BINA Nuclear Foundation Course (organized by Bangladesh Institute of Nuclear Agriculture).
- Delivered many lectures on radiation safety/health physics to the course participants for College/University Teachers (organized by the National University).
- Delivered many lectures on Radiation Safety for RSO/NDT Workers training course at SPSS, KSA (April-May 2013).
- Delivered two lectures as invited speaker at the School on Ionizing radiation and protect the environment, Germany, 15-22 August 2014.

Contribution to Education

- Appointed as examiner of M.Sc., M. Phil. and Ph.D. thesis of different universities.
- Appointed a questions-setter and examiner of Health Physics, Nuclear Physics, Reactor Physics, Radiation Protection, Medical Physics and Environmental Impact Assessment (EIA) for M. Sc./M. Phil./Ph.D. examination of different universities.
- Member of Syllabus Committee for M.S. in Medical Physics and Bio-engineering, Gono University, Savar, 2000.
- Member of Syllabus Committee for M. S. Nuclear Science and Engineering, Bangladesh University of Professional, January 2011.
- Member of Syllabus Committee on M. S. Nuclear Engineering, University of Dhaka, February, 2011.
- Appointed as External Examiner of Medical Physics for M.D. students of National Institute of Cancer Hospital and Research under Dhaka University (2007-2012).
- Appointed a question-setter, moderator and examiner of Health Physics and Medical Physics for M. Phil. students of National University (2004, 2008, 2013, 2018).

- Appointed a question moderator of Radiation Physics for M. Phil. students (Radiotherapy) of BSMMU (2005-2009); question and moderator and external examiner for M. Phil. (Radiation Physics) degree in Radiotherapy in 2013 and 2014 under BSMMU.
- Appointed a question setter and external examiner of Nuclear Reactor System for M. Phil./Ph.D. students of Jahangir Nagar University in 2013 (November).
- Prepared and finalized the MS syllabus (18 months) in Medical Physics for KYA University, December 2013.
- Prepared and finalized the B. Sc. (Hons.) syllabus (4 yrs.) in Medical Physics for KYA University, December 2013.
- Member of Syllabus Committee for 4 yrs B. Sc. in Nuclear Engineering, University of Dhaka, January, 2014.
- Member of M.S. Examination Committee (2nd Semester), Department of Nuclear Engineering, University of Dhaka, February, 2014.
- Member of B. Sc. (Hons.) Syllabus Committee for 4 yrs in Nuclear Science and Engineering, MIST, September 2014.
- Chairman of MS Syllabus Committee in Mechatronics Engineering, KYA University, October 2014.
- Chairman of B.Sc (Engg.) (4 years) Syllabus Committee in Mechatronics Engineering, KYA University, October 2014.
- Member, Syndicate and Academic Council, KYA University (2014-2015).
- Member of Moderation Committee for MSc exam., Department of Medical Physics, KYA University, 2014-2015.
- Member, New Faculty Recruitment committee, Faculty of Science and Engineering, KYA University (2014-2015)
- Convenor, Procurement committee, Faculty of Science and Engineering, KYA University (2014-2015)
- Member of M.S. and Ph.D. Syllabus committees in Nuclear science and Engineering and Bio-medical Engineering, MIST (July 2015).
- Member of moderation committee for BCPS (Radiotherapy).
- Question setter for BCPS (Radiotherapy, radiology and anesthesiology).
- Member of BPGS, NSE Department, MIST (w.e.f 2015).
- Question setter and examiner for Medical Physics course (BMPT-531: Medical radiation physics, Department of BMPT, DU).
- Member of Moderation committee for BSc and MSc Exam., NSE Department (w.e.f. 2016)
- External Member of Moderation committee for MSc Exam., BME Department (2022)
- Member of B. Sc. (Hons.) Syllabus Committee (1st revision) for 4 yrs in Nuclear Science and Engineering, MIST, 2017.
- Member of Tender evaluation committee, NSE Department (w.e.f. 2016)
- Member, Best faculty selection committee, MIST (2017, 2018)
- Member, Best thesis selection committee, MIST (2017, 2018)
- Member, New Faculty Recruitment committee, NSE Department (w.e.f., 2017)
- Member, Central recruitment committee, MIST (2023, 2024)
- Member of B. Sc. (Hons.) Syllabus Committee (2nd revision) for 4 yrs in Nuclear Science and Engineering, MIST, 2020.
- Member of B. Sc. (Hons.) Syllabus Committee (3rd revision) for 4 yrs in Nuclear Science and Engineering, MIST, 2024.
- Member, Viva Board for recruitment of Engineers and Officers, Dhaka North City Corporation, MIST (5 days, 2022).
- Reviewer of Int. and National journals/book chapters

➤ **Student Supervision (1994-present):**

Ph. D. Thesis:

6 (six) Ph.D. students of Physics Department, Jahangirnagar University, Savar, Dhaka completed their Ph. D. thesis works under my co-supervision in the field of Health Physics/Reactor Shielding/Medical Physics.

1 (one) Ph. D. student from National University completed his Ph.D. thesis work under my supervision in the field of Health Physics.

M. Phil. Thesis:

8 M. Phil. students from different universities completed their degree under my co-supervision in the field of Health/Medical Physics and Radiation Protection.

M. Sc. Thesis:

34 M. Sc. students from different universities completed their thesis works under my co-supervision in the field of Health/Medical/Reactor Physics and Radiation Protection.

B.Sc. Thesis in NSE:

57 B. Sc.Students (19 groups) from NSE/BME department completed their thesis works under my supervision.

Current supervision: 1 PhD student, 1 MSc student and 8 BSc students (three groups) are working under my supervision.

Publication Summary:

- Papers Published in Foreign Journals/Proceedings: **120 Nos.**
- Papers Published in National Journals/Proceedings: **90 Nos.**
- Technical Reports: **141 Nos.**
- Paper presented in the International Conferences/Seminars/Symposium etc.: **73 Nos.**
- Paper presented in the National Conferences/Seminars/Workshops etc.: **76 Nos.**
- Regulatory Guides (Books): **06 Nos.**
- Book Chapter: **01** (Publisher: Springer, 2014)
- Book Chapter: **01** (Book chapter accepted, 2024)

Professional Experience:

Employment History:

- Joined as Scientific Officer (Medical Physicist) in the Bangladesh Atomic Energy Commission (BAEC) on 26 December 1980.
- Promoted to the post of Senior Scientific Officer in the BAEC on 01 January 1985.
- Promoted to the post of Principal Scientific Officer in BAEC on 01 January 1993.
- Promoted to the post of Chief Scientific Officer in the BAEC on 01 December 2001.
- Elevated to the Grade-1 Chief Scientific Officer on 1 July 2007 (Grade-1 under National Pay Scale-2009).
- Appointed as Member-Planning of BAEC by the President of Bangladesh on 30.8.2011 (second top management position of BAEC).
- Retired as Grade-1 Chief Scientific Officer and Member-Planning from BAEC on November 1, 2011 with over 31 years of active service.
- Worked as Technical Adviser for providing technical services (i.e. development of NDT related course materials/QA manual/Radiation Safety Procedures, Company brochures etc.) and training services on NDT methods and radiation safety for the “A Star NDT Services and Training Centre (BD) Pvt. Ltd.” and “Industrial Inspection Services Limited” (January, 2012-March, 2014).

Scientific Research Experience

- About 31 years experience in the field of Radiation Protection, Nuclear/Health Physics, Medical Physics, Radioactive Waste Management, Nuclear Safety, Nuclear Safeguards and Nuclear Security.
- Having extensive working experience with different counting systems [HPGe detectors, NaI detectors, proportional beta counters, BF₃ proportional neutron counters, alpha detectors, liquid scintillation counters with different multichannel analysers], NaI(Tl) based whole body counter
- Radiation monitoring with different TLDs, area monitoring with different survey meters, wipe/leak test, bioassay, radioactive waste segregation/treatment and storage, NORM survey/decontamination, RF radiation survey.
- Calibration of secondary standard electrometers and radiotherapy ion chambers with different irradiators, calibration of radiation measuring equipment, x-ray ion chamber and survey meters, neutron monitors, calibration of different survey meters, pocket dosimeters and neutron monitors
- QA/QC and measurements of radiation exposure from x-ray machine, linear accelerators, teletherapy, deep therapy and brachytherapy units
- Measurements of radioactivity in environmental and food samples, gamma and neutron radiation monitoring in and around the 3MW TRIGA Mark-II Research Reactor, 14 MeV neutron generator and portable neutron sources
- Nuclear safety related works for research and power reactors, gamma irradiators etc.
- Also supervised M. Sc./M. Phil./Ph. D. thesis works.
- Co-worker of 4 IAEA TC projects; Co-worker of 3 IAEA research contracts; Project Counterpart of 10 IAEA/RCA projects; Project Leader of 2 FNCA (Japan) projects; Co-worker of USDOE sponsored project on Megaports Initiative (gamma and neutron radiation detection by Gate Monitor) for Chittagong Port Authority.

Research Grants

- a. Chief Investigator of 4 IAEA research contracts (US\$22,000.00) (1996-2004).
- b. Program Manager of 5 WHO research projects (US\$55,000.00) (2003-2008).
- c. Project Counterpart of USDOE sponsored project on Physical Protection for Radioactive Sources under GTRI program (US\$75,000.00) (2009-2011).

Nuclear Regulatory Experience

- About 10 years direct experience (1998-2008) and 10 years indirect experience (1990-1997 and 2009-2011) in the field of regulatory works such as licensing, inspection, enforcement, radiation facility assessment, safety evaluation for 3 MW TRIGA Mark-II research reactor, preparation of audit/inspection reports, review of safety analysis report for research reactor and radioactive waste storage facility, legislation, policy etc. for implementation of Nuclear Safety and Radiation Control Act-93 and Rules-97.
- Actively involved for drafting the Bangladesh Atomic Energy Regulatory Authority (BAERA) Act, Spent Fuel and Radioactive Waste Management Rules, National Radiological Emergency Plan and Regulatory Guides on Radiation Safety.
- Contributed for drafting licensing form and safety evaluation procedures for nuclear power plants.
- Also actively participate in preparation of organogram of regulatory body and organogram for nuclear power project and submitted to the MOST for approval in 2011.

Administrative/Management Responsibilities at BAEC

- **Head**, Health Physics and Radioactive Waste Management Laboratory, Atomic Energy Research Establishment (AERE), Bangladesh Atomic Energy Commission (BAEC) (1996-97). Also performed regulatory works for Nuclear Safety and Radiation Control Division.
- **Head**, Secondary Standard Dosimetry Laboratory (SSDL), AERE, BAEC (1993-1998). Also performed regulatory works for Nuclear Safety and Radiation Control Division.

- **Head**, Radiation Control Section of Nuclear Safety and Radiation Control Division (NSRCD), BAEC (1998-2002). Performed all regulatory works.
- **Director**, Nuclear Safety and Radiation Control Division (Regulatory Authority Wing), BAEC (January 2003- May 2008). Performed all regulatory works.
- **Director**, Nuclear Safeguards and Security Division, BAEC (May 2008-June 2010). Also assisted NSRCD in the field of regulatory works in many occasions.
- **Director**, Nuclear Power and Energy Division, BAEC (April 2009- May 2010). Also assisted NSRCD in the field of regulatory works in many occasions.
- **Director**, International Affairs Division and IAEA National Liaison Officer (NLO), BAEC (July 2010-August 2011). Also assisted NSRCD in the field of regulatory works in many occasions.
- **Member** (Planning), BAEC (September-October 2011). Also assisted NSRCD in the field of regulatory works in many occasions.
- **Chairman** (acting), BAEC (15-30 September 2011).

As **Head/Director** of different divisions under BAEC was involved in technical, administration and financial activities of BAEC. As Member (Planning), BAEC was also involved in all top level technical, administrative and financial management of BAEC activities. Worked as Convener or Member of different Committees or sub-Committees (formed by BAEC on BAEC activities). Acted as Convener or Member of different Committees or sub-Committees formed by the Ministry/BAEC for building up infrastructure as per IAEA Milestone Documents for implementation of its 1st nuclear power plant project in a safe & secured manner in the country.

Training:

Foreign Training/Meeting/Workshop/Webinar

- Four weeks training course on Determination of radionuclides in food and environmental samples, September 1987, KfK, Germany.
- Four weeks training course on Radioactive waste management, October 1988, KfK, Germany.
- Four weeks training course on Nuclear measurements and methods in reactor and personal neutron dosimetry, 15 May-9 June 1989, Riga, Latvia.
- Six months IAEA fellowship training on radiation protection at 250 kW TRIGA Mark-II research reactor, Atomic Institute, August '89-February '90, Vienna, Austria.
- Two weeks training course on Standardization of dose measurements through Secondary Standard Dosimetry Laboratories (SSDL's), March 1993, Melbourne, Australia.
- Three weeks training course on Safety assessment of radioactive waste disposal facilities, March 1994, ANL, USA.
- Four weeks course on Medical Physics, 9-27 September 1996, ICTP, Italy.
- IAEA Workshop on Occupational Radiation Protection, June 21-25, 1999, Melbourne, Australia.
- Training on OSI Introductory Course, August 2-6, 1999, CTBTO, Vienna, Austria.
- Two weeks workshop on the application and development of nuclear reactor simulators for educational purposes, 16-27 October 2000, ICTP, Italy.
- IAEA Workshop on Safety and Security of Radioactive Materials, 6-10 August 2001, Bangkok, Thailand.
- IAEA Workshop on Safety and Security of Radioactive Materials, 11-15 November 2002, Tokyo, Japan.
- IAEA Workshop on Development of National Strategies for Control of Radioactive Sources including Orphan Sources, 24-27 November 2003, Hanoi, Vietnam.
- IAEA Sub-regional Workshop on Illicit Nuclear Trafficking Information Management and Coordination, 2-5 September 2008, Colombo, Sri Lanka.
- Megaports Familiarization Training, May 5-7, 2009, PNNL, USA.

- One week training course on Megaports Initiative, May 12-15, 2009, Bangkok, Thailand.
- Participated in the Megaport Initiative Meeting with USDOE, 9-11 June, 2009, Sri Lanka.
- Participated in the IAEA Joint Training (with KONICA, KAERI) on Nuclear Energy Policy, Planning and Project Management, Nov. 5-Nov. 25, 2009.
- Participated in the Meeting of TC Liaison Officer on RCA Project Evaluation, 15-19 October, 2010, Vienna, Austria.
- Participated in the TC Project Design Workshop for Asia & the Pacific, 31 Jan.-4 Feb. 2011, Vienna, Austria.
- Participated in the IAEA training course on Project Management for Nuclear Power Plant Construction, 31 May- 07 June 2011, Russia.
- Participated in the Study tour on Security of Radioactive Materials, 10-16 August 2011, PNNL, USA.
- Participated in the IAEA Meeting on Integrated Nuclear Infrastructure Review (INIR) Mission, 9-15 November 2011, Dhaka, Bangladesh.
- Attended in the first webinar on the security of radioactive sources, 02 December 2014, Hosted by WINS, Vienna, Austria.
- Attended in the Webinar Series on Strengthening Nuclear Security for Advanced Reactor Technologies (4 days, 2021), hosted by WINS, Vienna.
- Attended in the IAEA webnair series on Multi-physics modelling and simulation of nuclear reactors using OpenFOAM, 30 August 2022 to 6 October 2022, every Tuesday and Thursday from 14:00- 16:00 CET (Vienna time).
- Attended in the WINS Webinar on *Third Webinar on Competency Framework Development in the ASEAN Region*, 11 July 2024 (hosted by WINS, Vienna)
- Attended the webinar on IAEA-TERC-2024-01 worldwide radionuclide proficiency test meeting, 3-5 December 2024 (hosted by IAEA).
- Attended in the international online workshop on “The role of artificial intelligence in strengthening the physical security of nuclear facilities”, hosted by WINS, Vienna, 10–11 December 2024.

Local Training/Workshop

- Foxboro Training Course (3-14 March, 1980) on Fundamentals of Pneumatic and Electronic Instrumentation, Dhaka (by Foxboro Far East Pte Ltd., Singapore).
- Basic Nuclear Orientation Course, 3 months, 1982, BAEC, Dhaka.
- Advanced Course on Nuclear Engineering and Reactor Physics, 6 months, 1982, BAEC.
- Basic Radiation Protection, Two weeks, December 1984, BAEC, Dhaka.
- Attended in the BAEC-JAERI Training Course on Reactor Physics, January 12-16, 1994, BAEC, Dhaka.
- Procurement of Goods, Works and Services under Project Aid, October 3-7, 1999, Academy for Planning and Development, Dhaka.
- National Training Course on Non-destructive Testing (NDT) Methods, 07-19 June, 1999, BAEC, Dhaka.
- IAEA / BAEC National Workshop On Radiation Protection and Quality Assurance In Radiotherapy, 18-22 July 2000, BAEC, Dhaka.
- AAPM International Scientific Exchange Course on The Physics of Radiation Therapy, January 29-February 2, 2001, BUET, Dhaka.
- IAEA / BAEC National Workshop On Radiation Protection and Quality Assurance In Radiology, 6-10 May 2001, BAEC, Dhaka.
- National Workshop on Nuclear Power Project Planning, 18-20 March 2010, BAEC.
- JAEA-BAEC Workshop on Human Resources Development in the Field of Nuclear Energy and Radiation, 31 May-02 June 2010, BAEC, Dhaka.

- National Workshop on Radioactive Waste management-Its Perception and Acceptance, 4-6 March, 2011, BAEC, Dhaka.
- JAEA-BAEC Training Course on Human Resources Development in the Field of Nuclear Energy and Radiation, 5-8 July 2011, BAEC, Dhaka.
- Completed in-house training on ASNT Level-II Radiographic Testing (RT), Ultrasonic Testing (UT), Magnetic Particle Testing (MT) and Liquid Penetration Testing (PT) at A- Star NDT Services and Training Centre Limited, August 2013, Dhaka.
- Attended in the Seminar on Nuclear Energy in Bangladesh and Safety Issue (20 August 2015) and Workshop on Nuclear Engineering (31 August-5 September 2015) (Conducted by Dr. Kamal, Germany), NSE Department, MIST.
- Attended the Workshop on PCTAN Nuclear Power Plant Simulators (1-3 March 2018) (Conducted by Dr. Le Pro, USA), NSE Department, MIST
- Attended the Faculty Development program (5 days), December 2019, MIST.
- Attended the Faculty Development program-Research methodology (5 days), December 2021, MIST.
- Attended the Faculty Development program-Research methodology(5 days), December 2022, MIST.
- Attended the Faculty Development program (3 days), December 2023, MIST.

Project Works:

- Project Leader of ECNEC project “Establishment of Secondary Standard Dosimetry Laboratory at INST”, BAEC, 1990-1993.
- Project Leader of ECNEC project “Establishment of Radioactivity Monitoring Laboratory at INST”, BAEC, 1993-1996.
- Project Co-Leader of ECNEC project “Establishment of Radioactive Waste Management Laboratory at INST”, BAEC, 1992-1994.
- **Project Director of ADP project** “Establishment of Radioactivity Testing Laboratory at Chittagong”, BAEC, 1999-2001.
- Co-worker of ADP project “Establishment of Nuclear Safety and Radiation Control Division”, BAEC, '98-'02.
- Co-worker of ADP project “Establishment of Central Radioactive Waste Storage Facility”, BAEC, '97-'01.
- Co-worker of ADP project “2nd phase of Nuclear Safety and Radiation Control Division”, '06-11.

Radiation Control Officer (RCO):

- Worked as Certified Radiation Control Officer for NSRCD (1999-2002) as per Nuclear Safety and Radiation Control Rules-97 for controlling of radiation sources.

Achievements:

- Established health physics laboratory, secondary standard dosimetry laboratory (SSDL) and radioactive waste storage and processing facilities.
- Established nuclear security for preventing misuse of radioactive sources.
- Established country profile of environmental radiation levels.
- Established laboratory for individual dose monitoring by using TLD technique.
- Established regulatory infrastructure for implementation of nuclear safety and radiation control Act and Regulations.
- Established infrastructure for implementation of nuclear power project.
- Developed TLD phosphors and plastic (Perspex) dosimeter for radiation dose measurements.
- Worked as **Group Leader** for completion of nation-wide regulatory survey/radiation facility inventory (May 1999-December 2001)(**Results published in 78 volumes**).

➤ Reviewer of the following Journals:

Nuclear Science and Applications (published by BAEC), Bangladesh Journal of Medical Physics, Jahangirnagar Physics Studies, Bangladesh Journal of Physics, King Fahad University Science Journal, Bangladesh J. of Nuclear Medicine and Environmental Monitoring and Assessment, Nuclear Technology, Journal of Nuclear Science and Tehnology, Nuclear Engineering and Tchnology, Journal of Simulation and Modeling, KERTENEK, Jouranl of Applied Nuclear Science, Fluids, Energies, Journal of Nuclear Energy, Applied Physics and Engineering, Journal of Engineering Research and Reports, Archives of Current Research International, Physical Science International Journal, Asian Journal of Research and Reviews in Physics, ASME Journal of Nuclear Engineering and Radiation Science, Current Perspective to Physical Science Research, Applied Sciences, Sustainibility, Processes, Water, Energies, Journal of Nuclear Engineering, Fluids, WSEA Tranctions on Environment and Development, WSEA Tranctions on Systems, WSEA Tranctions on Computers, WSEA Tranctions on Business and Economics, Int. J. of Power and Energy Conversion, and Journal of Theoretical and Applied Physics.

- Edited (**as Co-editor**) **03** WHO-BAEC regulatory guides & **03** posters (2004-2005).
- Service offered as a **Consultant** for the IAEA (on SSDL), Austria (16-19 Nov., '98).
- Service offered as a **Consultant** for the IAEA (on DBT), Austria (23-27 July, '05, 30 May to 02 June 2006).
- Service offered as a **Technical Advisor**, April-May (2 months), 2013, SPSS, KSA.
- Organized **six** workshops/seminars on Medical Physics as Member/Organizing Secretary.

Recognitions:

- Appointed member for Developing Countries Committee (DCC) of International Organization of Medical Physics (IOMP) (1998-2002) [MPW Vol. 14(2), 98].
- Biography included in Who's Who in the World in 2001, 2002, USA.
- Biography included in "The Contemporary Who's Who", ABI, 2003.
- Biography included in Who Who's in Science and Engineering, 2002, USA.
- Appointed Board Adviser of Int. Union of Radioecology (2008-2011).
- Awarded Regular Associate of ICTP (**Medical Physics**), Trieste, Italy (1999-2006).
- A certificate of appreciation from USDOE for outstanding work for recovery of hazardous Co-60 spent radioactive source from GammaTech Limited, Chittagong.
- **Editorial member**, Americal Journal of Science and Technology (www.aascit.org) (since 2014).
- **Editorial member**, American Journal of Biomedical Science and Engineering(www.aascit.org) (since 2014).

Membership of Professional Societies:

- Former Founder Secretary (1998-2010) and Life member, Bangladesh Medical Physics Association (BMPA). Vice-president of BMPA (2012-2014).
- Life Member, Bangladesh Physical Society.
- Member, American Physical Society (Membership id is 61153854).
- PIP Member, American Association of Physicists in Medicine (AAPM) [1997-2009].
- Member, Bangladesh Association for Advancement of Science.
- Life Member, Association of Medical Physics in India.
- Member, Bangladesh Association for Scientists and Scientific Professionals.
- Convenor, Bangladesh Radiation Protection Society.
- Member, World Institute of Nuclear Security (WINS).
- Member, New York Academy of Sciences.
- Life member of American Association for Science and Technology (since 2016)

Countries Visited:

Germany, Latvia, Russia, USA, Austria, Indonesia, France, Syria, Turkey, Malaysia, Vietnam, Mongolia, Thailand, India, China, South Korea, Sri Lanka, Australia, Italy, Morocco, Sweden, Finland, Spain, Myanmar, UK, Bharain, Qatar, UAE, Saudi Arabia, Japan, Singapore, Hungary, Slovakia, Slovenia, Belgium.