CURRICULUM VITAE

BIOGRAPHICAL

Name:	MOHAMMED SAIFUL HUQ, PH.D., DABR, FAAPM, FInstP		
Business Address:	UPMC Cancer Pavilion 5150 Centre Avenue, 5th Fl Pittsburgh, PA 15232	Email:	huqs@upmc.edu
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EDUCATION and TRAINING

UNDERGRADUATE

1974	University of Dacca Dacca, Bangladesh	B.Sc. (Honors)	Physics

GRADUATE

1976	University of Dacca Dacca, Bangladesh	M.Sc.	Physics
1979	College of William and Mary Williamsburg, Virginia	M.S.	Physics

POSTGRADUATE

1984	College of William and Mary Williamsburg, Virginia	Ph.D.	Physics

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APPOINTMENTS and PROMOTIONS

ACADEMIC

8/1977 - 12/1980	Graduate Teaching Assistant, Physics Department, College of William and Mary, Williamsburg, VA.
1/1981 - 4/1984	Graduate Research Assistant, Physics Department, College of William and Mary, Williamsburg, VA.
7/1985 - 8/1985	Instructor, Summer School, College of William and Mary, Williamsburg, VA.
6/1984 - 6/1986	Postdoctoral Research Associate, Physics Department, College of William and Mary, Williamsburg, VA.
8/1986-6/1988	Oak Ridge Associated Universities Postdoctoral Research Associate, Physics Division, Oak Ridge National Laboratory, Oak Ridge, TN.

8/1988-8/1990	NCI Postdoctoral Fellow in Medical Physics, Yale University School of Medicine, New Haven, CT.
9/1990-6/1992	Instructor, Department of Radiation Oncology and Nuclear Medicine, Jefferson Medical College of Thomas Jefferson University, Philadelphia, PA.
7/1992-6/1997	Assistant Professor, Department of Radiation Oncology, Jefferson Medical College of Thomas Jefferson University, Philadelphia, PA.
7/1997-10/2003	Associate Professor, Department of Radiation Oncology, Jefferson Medical College of Thomas Jefferson University, Philadelphia, PA.
10/2003-9/2004	Clinical Professor, Department of Radiation Oncology, Jefferson Medical College of Thomas Jefferson University, Philadelphia, PA.
10/2004 – 1/2006	Visiting Clinical Professor University of Pittsburgh, School of Medicine, Department of Radiation Oncology, Pittsburgh, PA
2/2006 - 8/2009	Clinical Professor, University of Pittsburgh, School of Medicine, Department of Radiation Oncology, Pittsburgh, PA
9/2009 - present	Visiting Professor, University of Pittsburgh, School of Medicine, Department of Radiation Oncology, Pittsburgh, PA
7/2012 – present	Professor in Clinical and Translational Science, Secondary Faculty appointment at University of Pittsburgh

HOSPITAL APPOINTMENTS:

7/1997 - 9/2004	Clinical Director, Medical Physics Division, Department of Radiation Oncology, Thomas Jefferson University Hospital, Philadelphia, PA
10/2004 – present	Director, Division of Medical Physics, UPMC CancerCenter Department of Radiation Oncology, Pittsburgh, PA

OTHER APPOINTMENTS:

Radiation Therapy Oncology Group (RTOG) Appointment:

9/1997 – 5/2002	Director of Quality Assurance – Dosimetry Section
5/2002-9/2004	RTOG Group Physicist

CERTIFICATION and LICENSURE

American Board of Radiology, Therapeutic Radiological Physics 1995

MEMBERSHIP in PROFESSIONAL and SCIENTIFIC SOCIETIES

American Association of Physicists in Medicine (AAPM) 1990 - Present

American College of Radiology (ACR)	1995 - Present
American Society for Therapeutic Radiology and Oncology (ASTRO)	1996 - Present
The Pennsylvania Radiological Society	1998 - Present

HONORS and AWARDS

"Distinguished Medical Physicist for 2010" award given by the Indo American Society of Medical Physicists, July 19, 2010

Distinguished Service Award given by The American Board of Radiology, March, 2010

Elected Fellow of The Institute of Physics for distinguished achievement in medical physics practice, education and leadership, 2004

Elected Fellow of the American Association of Physicists in Medicine for distinguished achievement in medical physics practice, education and leadership, 2000.

Co-recipient of the Farrington Daniels Award given by the American Association of Physicists in Medicine for the best scientific paper on Radiation Dosimetry published in 1991.

Co-recipient of the Martin Marietta (Oak Ridge National Laboratory) team award for excellence in publications in 1989.

Travel award to attend the NATO Advanced Study Institute on Atomic and Molecular Processes of Controlled Thermonuclear Fusion held in July 19-30, 1982 at Santa Flavia, Italy.

PUBLICATIONS

Referred Articles

1. Huq, M.S., and Chowdhury, S.M.M.R.: Phonon Frequency Distribution of Amorphous Arsenic and Germainia. Il Nuovo Cimento 43B: 57-64, 1978.

2. Huq, M.S., Doverspike, L.D., Champion, R.L., and Esaulov, V.A.: Total Electron Detachment Cross Sections for Collisions for H^- with He and F^- with Atomic and Molecular Targets. J. Phys. B: At. Mol. Phys. 15: 951-959, 1982.

3. Huq, M.S., Fraedrich, D.S., Doverspike, L.D., Champion, R.L., and Esaulov, V.A.: Reactive Scattering and Electron Detachment in Collisions of Halogen Negative Ions with Isotopic Hydrogen Molecules. J. Chem. Phys. 76: 4952-4960, 1982.

4. Huq, M.S., Doverspike, L.D., and Champion, R.L.: Total Cross Sections for Collisions of H^- and D^- with Various Molecules. Phys. Rev. A 27: 785-794, 1983.

5. Huq, M.S., Doverspike, L.D., and Champion, R.L.: Electron Detachment for Collisions of H^- and D^- and with Hydrogen Molecules. Phys. Rev. A 27: 2831-2839, 1983.

6. White, N.R., Scott, D., Huq, M.S., Doverspike, L.D., and Champion, R.L.: An Ion Beam Study of Refractive Scattering of Halide Ions by Methyl Halides. J. Chem. Phys. 80: 1108-1115, 1984.

7. Huq, M.S., Scott, D., White, N.R., Champion, R.L., and Doverspike, L.D.: Measurements of Absolute Total Cross Sections for Charge Transfer and Electron Detachment of Halide Ions on Chlorine. J. Chem. Phys. 80: 3651-3655, 1984.

8. Huq, M.S., Scott, D., Champion, R.L., and Doverspike, L.D.: Total Cross Sections for Collisions of 0^- and S^- with Hydrogen. J. Chem. Phys. 82: 3118-3122, 1985.

9. Scott, D., Huq, M.S., Champion, R.L., and Doverspike, L.D.: Electron Detachment in Na^-, K^- Rare Gas Collisions. Phys. Rev. A 32: 144-150, 1985.

10. Scott D., Huq, M.S., Champion, R.L., and Doverspike, L.D.: Alkali-Negative-Ion-Molecule Collisions Phys. Rev. A33:170-177, 1986.

11. Scott, D., Champion, R.L., Doverspike, L.D., and Huq, M.S.: Collisions of Cs^- with Atoms and molecules. J. Phys. B.: At Mol. Phys. 19: 3991-4006, 1986.

12. Champion, R.L., Doverspike, L.D., Huq, M.S., Scott, D., and Wang, Yicheng: Reactive Scattering and Electron Detachment for Collisions of Halogen Negative Ions with HC1, DC1, and HBr. J. Chem. Phys. 88: 5475-5480, 1988.

13. Meyer, F.W., Griffin, D.C., Havener, C.C., Huq, M.S., Phaneuf, R.A., Swenson, J.K., and Stolterfoht, N.: Population of High Angular Momentum States in Low Energy Double-Electron Capture Collisions of 0^{6+} with He. Phys. Rev. Lett. 60: 1821-1824, 1988.

14. Huq, M.S., Champion, R.L., and Doverspike, L.D.: Low Energy Collisions of 0^{2+} with Atoms and Molecules. Phys. Rev. A. 37: 2349-2353, 1988.

15. Stolterfoht, N. Sommer, K. Griffin, D.C. Havener, C.C., Huq, M.S., Phaneuf,, R.A., Swensson, J.K., and Meyer, F.W.: Studies of Electron Correlation Effects in Multicharged-Ion-AtomCollisions Involving Double Capture. Nucl. Instrum. and Methods in Phys. Res., B40/41: 28-32, 1989.

16. Havener, C.C., Huq, M.S., Meyer, F.W., and Phaneuf, R.A.: Electron Capture by Multicharged Ions at eV Energies. J. Phys. (Paris) 50: C1-7 to C1-17, 1989.

17. Havener, C.C., Huq, M.S., Krause, H.F., Schulz, P.A., and Phaneuf, R.A.: Merged Beam Measurements of Electron-Capture Cross Sections for 0^{5+}+ H at eV Energies. Phys. Rev. A39: 1725-1740, 1989.

18. Huq, M.S., Havener, C.C., and Phaneuf, R.A.: Low Energy Electron Capture Cross Sections for N^{5+}, N^{4+}, and N^{3+} + H Using Merged Beams. Phys. Rev. A40 : 1811-1816, 1989.

19. Gregory, D.C., Huq, M.S., Meyer, F.W., Swenson, D.W., Sataka, M. And Chantrenne, S.: Electron-Impact Ionization Cross Section Measurements for U^{10+}, U^{13+}, and U^{16+}. Phys. Rev. A41:106-115, 1990.

20. Schulz, R.J., Venkataramanan, N., and Huq, M.S.: The Thermal Defect of A - 150 Plastic and Graphite for Low-Energy Protons. Phys. Med. Biol. 35: 1563-1573, 1990.

21. Huq M.S. and Nath R.: A Comparison of IAEA 1987 and AAPM 1983 Protocols for Dosimetry Calibration of Radiotherapy Beams. Med. Phys. 18:26-35, 1991.

22. Schulz, R.J., Huq, M.S., Venkataramanan, N., and Motakabbir, K.A.: A Comparison of Ionization-Chamber and Water-Calorimeter Dosimetry for High-Energy X-rays. Med. Phys. 18: 1229-1233, 1991.

23. Huq, M.S., Venkataramanan, N., and Meli, J.A.: The Effect on Dose of Kilovoltage X-rays Backscattered from Lead. Int. J. Radiat. Oncol. Biol. Phys. 24:171-175, 1992.

24. Schulz, R.J., Verhey, L.J., Huq, M.S., and Venkataramanan, N.: Water Calorimeter Dosimetry for 160 MeV Protons. Phys. Med. Biol. 37:947-953, 1992.

25. Huq, M.S., Agostinelli, A.G., and Nath, R.: Calibration of high energy photon and electron beams for radiotherapy using AAPM 1983 and IAEA 1987 dosimetry protocols. Med. Phys. 20:293-298, 1993.

26. Huq, M.S., Yu, Y., Chen, Z.P., and Suntharalingam, N.: Dosimetric Characteristics of a commercial Multileaf Collimator, Med. Phys., 22: 241-247, 1995.

27. Palta, J.R., Biggs, P.J. Hazle, J.D., Huq, M.S., Dahl, Q.A. Ochran, T.J., Soen, J., Dobelbower, R.R., and McCullough, E.C.: Intraoperative Electron Beam Radiation Therapy: Technique, Dosimetry, and Dose Specification. Report of Task Force 48 of the Radiation Therapy Committee, American Association of Physicists in Medicine. Int. J. Radiat. Oncol. Biol. Physics, 33: 725-745, 1995.

28. Reiff, J.E., Huq, M.S, Mohiuddin, M., and Suntharalingam, N.: Dosimetric Properties of Megavoltage Photon Grid Therapy, Int. J. Radiat. Oncol. Biol. Phys., 33 (4): 937-942, 1995.

29. Wang, Y., Huq, M.S., Cheng, X., and Iliakis, G.: Regulation of DNA Replication in Irradiated cells by Trans-Acting Factors, Radiation Research, 142: 169-175, 1995.

30. Huq, M.S., Agostinelli, A.G. and Nath, R.: An Evaluation of the Recommendations of the TG25 Protocol for the determination of depth dose curves for electron beams using ionization chambers. Med. Phys., 22(8): 1333-1337, 1995.

31. Mohiuddin, M., Stevens, J.H., Reiff, J.E., Huq, M.S., Suntharalingam, N.: Spatially Fractionated (GRID) Radiation for Palliative Treatment of Advanced Cancer, Radiation Oncology Investigations, 4: 41-47, 1996.

32. Ya, W., Huq, M.S., and Iliakis, G. Evidence for activities inhibiting in trans-initiation of DNA replications in extracts prepared from irradiated cells. Radiation Research, 145: 408-418, 1996.

33. Huq, M.S., Yu, Y., Mohiuddin, M., Ahmad, N.R., and Suntharalingam, N.: Differential Dose Delivery Using a Non-Docking Applicator for Intraoperative Radiation Therapy. Int. J. Radiat. Oncol. Biol. Phys., 37:429-433, 1997.

34. Ahmad, N.R., Huq, M.S., and Corn, B.W., Respiration-Induced motion of the kidneys in whole abdominal radiotherapy: Implications for treatment planning and late toxicity. Radiotherapy and Oncology, 42: 87-90, 1997.

35. Huq, M.S., Yue, N., and Suntharalingam, N.: Experimental determination of fluence correction factors at depths beyond d_{max} for a Farmer type cylindrical ionization chamber in clinical electron beams. Med. Phys., 24(10): 1609-1613 (1997).

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38. Reiff, J. E., Werner-Wasik, M., Valicenti, R.K., and Huq, M.S.,: Changes in the size and location of kidneys from supine to standing positions and the implications for block placement during total body irradiation. Int. J. Radiat. Oncol. Biol. Phys., 45: 447-449, 1999.

39. Wang, Ya, Zhou, X., Huq, M.S., and Iliakis, G.: Roles of replication Protein A and DNA-dependent protein kinase in the regulation of DNA replication following DNA damage. The Journal of Biological Chemistry, 274 (31): 22060-22064, 1999.

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42. Huq, M.S., Yue, N., and Suntharalingam, N.: Experimental determination of depth-scaling factors and central axis depth-dose for clinical electron beams, Int. J. Cancer (Radiat. Oncol. Investig.) 96(4): 232-237, 2001.

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52. Huq, M.S. and Andreo, P.: Advances in the determination of absorbed dose to water in high energy photon and electron beams, Phys. Med. Biol. 49 (4):R49-R104, 2004.

53. Rivard, M.J., Coursey, B.M., DeWerd, L.A., Hanson, W.F., Huq, M.S., Ibbott, G.S., Mitch, M.G., Nath, R., and Williamson, J.F.,: Update of AAPM Task Group No. 43 Report: A revised AAPM protocol for brachytherapy dose calculations, Med. Phys. 31 (3), 633-674, 2004.

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55. Williamson, J.W., Butler, W., DeWard, L.A., Huq, M.S., Ibbott, G.S., Li, Z., Mitch, M.G., Nath, R., Rivard, M.J., and Todor, D.,: Recommendations of the American Association of Physicists in Medicine regarding the impact of implementing the 2004 Task Group 43 Report on Dose Specification for ^{103}Pd and ^{125}I Interstitial Brachytherapy, Med. Phys. 32 (5), 1424-1439, 2005.

56. Saw, C.B., Loper, A., Komanduri, K., Combine, T., Huq, M.S., and Scicutella, C.,: Determination of CT-to-density conversion relationship for image-based treatment planning systems, Medical Dosimetry, 30 (3), 145-148, 2005.

57. Molineu, A., Followill, D.S., Balter, P.A., Hanson, W.F., Gillin, M.T., Huq, M.S., Eisbruch, A., Ibbott, G.S.: Design and implementation of an anthropomorphic quality assurance phantom for intensity-modulated radiation therapy for the Radiation Therapy Oncology Group, Int. J. Radiat. Oncol. Biol. Phys., 63: 577-583, 2005.

58. Yue, N.J., Heron, D.E., Komanduri, K., Huq, M.S.: Prescription Dose of Permanent ^{131} Cs Seed Prostate Implants, Med. Phys. 32 (8), 2496-2503, 2005.

59. Chen, X., Yue, N.J., Chen, W., Saw, C.B., Heron, D.E., Stefanik, D., Antemann, R., and Huq, M.S.: A dose verification method using a monitor unit matrix for dynamic IMRT on Varian linear accelerators, Phys. Medicine Biology, 50, 5641-5652, 2005.

60. Yue, N., Mori, J. Nath, R., Heron, D.E., and Huq, M.S.,: External beam radiotherapy boosts to reduce the impact caused by edema in prostate permanent seed implants, Phys. Medicine Biology, 51, 2267-2277, 2006.

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62. Fu, Weihua., Yang, Yong., Li, Xiang., Heron, D.E., Huq, M.S., and Yue, N.J., Dosimetric Effects of Patient Rotational Setup Errors on Prostate IMRT Treatments, Phys. Med. Biol., 51, 5321-5331, 2006.

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137. Li T, Li X, Yang Y, Heron D, Huq MS, Online Imaging with Treatment Beam, 2008 ASTRO

138. Quader M, Novotny Jr. J, Huq M.S., Flickinger J, Gerszten P, Evaluation of Patient Positioning Accuracy During Spinal Stereotactic Radiosurgery, 2008 ASTRO

139. Yang Y, Li T, Heron D.E., Huq M.S., Image-guided Respiratory-gated Lung Stereotactic Body Radiotherapy: Which Target Definition is Optimal? 2008 ASTRO

140. Fu W, Yang Y, Yue N.J., Selvaraj R., Chen A., Mehta K., Heron D.E., Huq M.S., Dosimetric Influence of Intrafraction Prostate Motion on IMRT Treatment with Sliding Window Dynamic Multileaf Collimator Technique, 2008 ASTRO

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TrueBeam Machine, Michalski, D., Bednarz, G., Huq, M.S., and Heron, D., 4DCT-Derived Treatment Planning Scan with Improved Quality, Med. Phys., 38, 3617, 2011

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182. Li, X., Li, T., Yang, Y., Heron, D.E., Huq, M.S., A Cone Beam CT Scatter Reduction Method with Piecewise Prior Image Knowledge, Med. Phys., 39, 3891, 2012.

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191. Li, T., Li, X., Yang. Y., Zhang, Y., Heron, D., and Huq, M.S., Simultaneous reduction of radiation dose and scatters for CBCT using collimators, Med. Phys., 40, 509, 2013.

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196. Zhang, Y., Yang, Y., Li, X., Li, T., Heron, D., and Huq, M.S., A probability density function based dose calculation for gated volumetric modulated arc therapy in lung stereotactic body radiotherapy, 40, 299, 2013.

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201. Zhang, Y., Li, X., Li, T., Ozhasoglu, C., Burton, S., Flickinger, J., Clump, D., Heron, D., Huq, M.S., Impact of different prescription isodose lines on plan quality for brain metastases using Multiplan system, Med. Phys., 41, 322, 2014.

202. Jang, S and Huq, M.S., Dosimetric impact of rotational error on multiple-target intensity-modulated radiosurgery (IMRS) with single-isocenter, Med. Phys., 41, 329, 2014.

203. Huq, M.S., Palta, J., Dunscombe, P., and Thomadsen, B., Risk based quality management: TG 100 in action, Med. Phys., 41, 428, 2014.

204. Spirydovich, S and Huq, M.S., Clinical process improvement and billing in radiation oncology: A case study of applying FMEA for CPT code 77336 (Continuing medical physics consultation), Med. Phys., 41, 433, 2014.

205. Flavia, C. T., Almeida, C.E. de, Huq, M.S., Failure modes and effects analysis for stereotactic radiosurgery: A comparison among three radiotherapy centers in Brazil, Submitted to the IUPESM World Congress on Medical Physics and Biomedical Engineering, June 7-12, 2015, Toronto, Canada.

Invited lectures

1. Huq, M.S.: Intraoperative Radiotherapy Task Group Update; Refresher Course at the 1996 Annual meeting of the American Assn of Physicists in Medicine, July 21-25, 1996, Philadelphia, PA.

2. Huq, M.S.: Calibration of high energy photon and electron beams: past, present and future; Department of Radiation Therapy, Medical College of Ohio, Toledo, Ohio, November 8, 1996.

3. Huq, M.S.: A status report on the absorbed dose-to-water based beam calibration protocol under consideration by the AAPM; International Atomic Energy Agency, Vienna, Austria, November 25, 1996.

4. Huq, M.S.: The role of medical physicists in the health care industry; Spring colloquium series in the physics department of the Indiana University of Pennsylvania, Indiana, PA, on April 18, 1997.

5. Huq, M.S.: Measurement of central axis depth dose curves in plastic phantoms for electron beams; Symposium on Clinical Electron Beam Dosimetry; Mid-Atlantic Chapter of the AAPM, Oct. 3, 1997.

6. Huq, M.S.: RTOG QA program; Workshop on QA in clinical trials, sponsored by NCI, Houston, TX, March 23-24, 1998.

7. Huq, M.S., Clinical applications of multi-leaf collimators as replacement for blocks and beyond; Fifth annual radiation oncology conference, Leigh Valley Hospital & Health Network, PA, April 8-14, 1999.

8. Huq, M.S.: Beam calibration using absorbed dose standards, 16th Annual Meeting and Workshop; The practice of radiation oncology physics in the next millennium, American College of Medical Physics, Aspen, Colorado, May 18-19, 1999.

9. Huq, M.S.: AAPM's TG-51 protocol for clinical reference dosimetry of high-energy photon and electron beams; Ohio River Valley Chapter of the AAPM, Oct. 16, 1999.

10. Huq, M.S.: AAPM's TG-51 protocol for clinical reference dosimetry of high-energy photon and electron beams; New Jersey Chapter of the AAPM, Oct. 26, 1999.

11. Huq, M.S.: AAPM's TG-51 protocol for clinical reference dosimetry of high-energy photon and electron beams; Delaware River Valley Chapter of the AAPM, Dec. 22, 1999.

12. Huq, M.S.: Photon beam calibration using the IAEA Code of Practice TRS-277; International workshop on medical physics in radiotherapy and nuclear medicine; Bangladesh Medical Physicists Association; Dhaka, Bangladesh Dec. 6-10, 1999.

13. Huq, M.S.: Beam calibration using the IAEA CoP based on standards of absorbed dose to water; International workshop on medical physics in radiotherapy and nuclear medicine; Bangladesh Medical Physicists Association held in Dhaka, Bangladesh Dec. 6-10, 1999.

14. Huq, M.S.: Immobilization and setup verification; International workshop on medical physics in radiotherapy and nuclear medicine; Bangladesh Medical Physicists Association; Dhaka, Bangladesh Dec. 6-10, 1999.

15. Huq, M.S.: Photon and electron beam calibration using the IAEA code of practice based on standards of absorbed dose-to-water, Second Beijing International Congress on Medical Radiation Physics, Beijing, May 27-29, 2000.

16. Huq, M.S.: AAPM's TG-51 protocol for clinical reference dosimetry of high-energy photon and electron beams; comparison with the IAEA CoP; Second Beijing International Congress on Medical Radiation Physics, Beijing, May 27-29, 2000.

17. Huq, M.S.: Implementation of the new IAEA Code of Practice based on standards of absorbed dose to water. Consultants' Meeting to develop the procedures for testing and implementing the Code of Practice based on standards of absorbed dose to water in hospitals in Member States; International Atomic Energy Agency, Vienna, Austria, December 11-13, 2000.

18. Huq, M.S.: Radiation treatment machines: Linear accelerators, AAPM/IOMP/BMPA Workshop on Radiation Therapy Physics; Bangladesh Medical Physics Association and ISEP/AAPM; Dhaka, Bangladesh January 29, - February 3, 2001.

19. Huq, M.S., Beam calibration using the AAPM-TG-51 protocol, AAPM/IOMP/BMPA Workshop on Radiation Therapy Physics; Bangladesh Medical Physics Association and ISEP/AAPM; Dhaka, Bangladesh January 29, - February 3, 2001.

20. Huq, M.S., Commissioning and QA of linear accelerators, AAPM/IOMP/BMPA Workshop on Radiation Therapy Physics; Bangladesh Medical Physics Association and ISEP/AAPM; Dhaka, Bangladesh; January 29, - February 3, 2001.

21. Huq, M.S., Clinical Implementation of the AAPM TG-51 protocol, 6th Biennial ESTRO Meeting on Physics for Clinical Radiotherapy, Seville, Spain, Sept. 17-20, 2001.

22. Huq, M.S., Codes of Practice for the dosimetry of high-energy photon and electron beams: A comparison of the IAEA TRS-398, AAPM TG-51, IAEA TRS-277 and TRS-381 codes of practice, 17th symposium of the Belgian Hospital Physicists Association, Brussels, Belgium, Nov. 30-Dec. 1, 2001.

23. Huq, M.S., Clinical application of IMRT, 10th Annual Dosimetry/Physics Symposium, MCP Hahnemann University, March 7-10, 2002.

24. Huq, M.S., Practical Implementation of TG-51 protocol, Refresher Course at the 2002 Annual meeting of the American Association of Physicists in Medicine, July 14-18, 2002, Montreal, Quebec, Canada..

25. Huq, M.S., Intercomparison of dosimetry protocols, International Symposium on Standards and Codes of Practice in Medical Radiation Dosimetry, Nov 25-28, 2002, IAEA, Vienna.

26. Huq, M.S., Everything you wanted to know about the practical Implementation of TG-51 protocol in the clinic; Refresher Course at the 2003 Annual meeting of the American Association of Physicists in Medicine, August 10-14, 2003, San Diego, USA.

27. Rogers, D.W.O., DeWerd, L., Ibbott, G., and Huq, M.S., Changes in C0-60 air kerma standards: the rationale for change and the impact on clinical practice; Refresher Course at the 2003 Annual meeting of the American Association of Physicists in Medicine, August 10-14, 2003, San Diego, USA.

28. Huq, M.S., Clinical Implementation of IMRT Technique: The Pittsburgh experience; International Atomic Energy Agency Consultants Technical Meeting on IMRT, June 2006, Vienna, Austria.

29. Huq, M.S., Dosimetry for Small Fields and Novel Beams, May 13-16, 2008, IAEA, Vienna, Austria.

30. Huq, M.S., CT simulator, Joint ICTP-IAEA School on Quality Assurance in Radiotherapy at the Abdus Salam International Centre for Theoretical Physics; November 24-December 5, 2008, Trieste, Italy.

31. Huq, M.S., Novel technologies, Joint ICTP-IAEA School on Quality Assurance in Radiotherapy at the Abdus Salam International Centre for Theoretical Physics; November 24-December 5, 2008, Trieste, Italy.

32. Huq, M.S., Patient specific IMRT QA, Joint ICTP-IAEA School on Quality Assurance in Radiotherapy at the Abdus Salam International Centre for Theoretical Physics; November 24-December 5, 2008, Trieste, Italy.

33. Huq, M.S., Small beam dosimetry, Joint ICTP-IAEA School on Quality Assurance in Radiotherapy at the Abdus Salam International Centre for Theoretical Physics; November 24-December 5, 2008, Trieste, Italy.

34. Huq, M.S., A method for evaluating QA needs in radiation therapy, Connecticut Chapter of the AAPM, March 20, 2009.

35. Huq, M.S., Implementing 3D conformal radiotherapy in clinical practice: Recommendations of IAEA TECDOC 1588; National Institute of Cancer Research and Hospital, Dhaka, Bangladesh, July 15, 2009.

36. Huq, M.S., Radiotherapy in Bangladesh – potential role of BAEC as a regulatory body; Bangladesh Atomic Energy Commission, July 20, 2009.

37. Huq, M.S., TG-51 outline; AAPM Summer School; Colorado College, Colorado, June 21-25, 2009.

38. Huq, M.S., Application of risk-based analysis methods to radiotherapy quality management; 2009 Fall Symposium on Quality Assurance and Other Challenges in State of the Art Radiation Therapy, Ohio River Valley and Penn-Ohio chapters of the AAPM, October 2-3, 2009.

39. Huq, M.S., Application of risk-based analysis methods to radiotherapy quality management; Rocky Mountain chapter meeting of the AAPM, February 6, 2010.

40. Huq, M.S., 3D CRT: A new opportunity for cancer treatment in Bangladesh; Radiation oncologists society in Bangladesh, Dhaka, Bangladesh, March 10, 2010.

41. Huq, M.S., International code of practice for radiotherapy dosimetry based on absorbed dose to water standards; International Conference on Radiation Medicine: Clinical Applications and Innovative Resources at the King Faisal Specialist Hospital & Research Center, Riyadh, Kingdom of Saudi Arabia, March 2010.

42. Huq, M.S., Cavity theory and absorbed dose-to-water based formalism; International Conference on Radiation Medicine: Clinical Applications and Innovative Resources at the King Faisal Specialist Hospital & Research Center, Riyadh, Kingdom of Saudi Arabia, March 2010.

43. Huq, M.S., Calibration of high energy photon beams; International Conference on Radiation Medicine: Clinical Applications and Innovative Resources at the King Faisal Specialist Hospital & Research Center, Riyadh, Kingdom of Saudi Arabia, March 2010.

44. Huq, M.S., Accidents in radiation therapy: First do no harm; Grand Round on Radiation Safety, UPMC Cancer Centers, Pittsburgh, PA, May , 2010.

45. Huq, M.S., Failure mode and effect analysis (FMEA): Practical example in IMRT; ESTRO 29, Barcelona, September 13, 2010.

46. Huq, M.S., Radiation oncology quality assurance in the modern era: How much is enough?; IAEA Human Health Seminar Series; Vienna, Austria, October 4, 2010.

47. Huq, M.S., Risk analysis in modern radiotherapy: Part I; XIII Radiotherapy Brazilian Society Congress, Rio de Janiero, Brazil, June 22-25, 2011.

48. Huq, M.S., Risk analysis in modern radiotherapy: Part II; XIII Radiotherapy Brazilian Society Congress, Rio de Janiero, Brazil, June 22-25, 2011.

49. Huq, M.S., Challenges associated with small field dosimetry; XIII Radiotherapy Brazilian Society Congress, Rio de Janiero, Brazil, June 22-25, 2011.

50. Huq, M.S., New paradigms for quality management in radiation therapy, AAPM Summer School, Burnaby, British Columbia, Canada, August 4-9, 2011.

51. Huq, M.S., Prioritization of quality management activities based on what is reasonably achievable and optimally beneficial to patients, ICRP Symposium, Maryland, USA, October 24-26, 2011.

52. Huq, M.S., New technologies in modern radiation therapy: advanced techniques, Karolinska University Hospital, Stockholm University, Stockholm, November 7, 2011.

53. Huq, M.S., Challenges associated with small field dosimetry; International Conference on Radiation Medicine: Clinical Applications and Innovative Resources at the King Faisal Specialist Hospital & Research Center, Riyadh, Kingdom of Saudi Arabia, February 27 – March 1, 2012.

54. Huq, M.S., New technologies in modern radiation therapy: advanced techniques; International Conference on Radiation Medicine: Clinical Applications and Innovative Resources at the King Faisal Specialist Hospital & Research Center, Riyadh, Kingdom of Saudi Arabia, February 27 - March 1, 2012.

55. Huq, M.S., Stereotactic body radiation therapy (SBRT): Physical aspects and associated challenges; International Conference on Radiation Medicine: Clinical Applications and Innovative Resources at the

King Faisal Specialist Hospital & Research Center, Riyadh, Kingdom of Saudi Arabia, February 27 - March 1, 2012.

56. Huq, M.S., Accidents in radiation therapy: first do no harm; International Conference on Radiation Medicine: Clinical Applications and Innovative Resources at the King Faisal Specialist Hospital & Research Center, Riyadh, Kingdom of Saudi Arabia, February 27 - March 1, 2012.

57. Huq, M.S., American Association of Physicists in Medicine; International Conference on Radiation Medicine: Clinical Applications and Innovative Resources at the King Faisal Specialist Hospital & Research Center, Riyadh, Kingdom of Saudi Arabia, February 27 - March 1, 2012.

58. Huq, M.S., Treatment planning in radiation therapy: An overview, Fifth annual dosimetry symposium, UPMC CancerCenter, Pittsburgh, PA, April 29, 2012.

59. Huq, M.S., An overview of intensity modulated radiation therapy; XVII Congresso Brasileiro De Fisica Medica, Salvador, Brazil, August 8-11, 2012.

60. Huq, M.S., Intensity modulated radiation therapy – challenges and remedies; XVII Congresso Brasileiro De Fisica Medica, Salvador, Brazil, August 8-11, 2012.

61. Huq, M.S., Clinical implementation of volumetric IMRT (Rapid Arc); XVII Congresso Brasileiro De Fisica Medica, Salvador, Brazil, August 8-11, 2012.

62. Huq, M.S., Tools and techniques for process based safety; SAMS session at the 54th Annual meeting of the AAPM, July 29-Aug 2, 2012, Charlotte, NC, USA.

63. Huq, M.S., GammaKnife vs linac-based technologies (TrueBeam, Trilogy, CyberKnife, Novalis, etc): Is one technology better than the other for radiosurgery?; The inaugural stereotactic radiosurgery and stereotactic body radiotherapy symposium, UPMC Beacon Hospital, Dublin, Ireland, September 22, 2012.

64. Huq, M.S., Stereotaxi and radiosurgery; The inaugural stereotactic radiosurgery and stereotactic body radiotherapy symposium, UPMC Beacon Hospital, Dublin, Ireland, September 22, 2012.

65. Huq, M.S., Is there hope for cancer patients? The past, the present and the future of radiotherapy; 7th SAARC Federation of Oncologists international cancer conference, Dhaka, Bangladesh, December 14-15, 2012.

66. Huq, M.S., Challenges and way forward in radiation equipment and medical physics; 7th SAARC Federation of Oncologists international cancer conference, Dhaka, Bangladesh, December 14-15, 2012.

67. Huq, M.S., Cavity theory, Group fellowship training for quality assurance and quality control in radiotherapy, Argonne National Lab, Chicago, USA, 18 Feb – Mar 1, 2013.

68. Huq, M.S., Calibration of high energy photon beams, Group fellowship training for quality assurance and quality control in radiotherapy, 18 Feb – Mar 1, 2013, Argonne National Lab Chicago, USA, 18 Feb – Mar 1, 2013.

69. Huq, M.S., Medical physicists beyond borders, Honorable James G. Kerieakes Keynote lecture, Spring Symposium of the Ohio River Valley Chapter of the AAPM, March 1-2, 2013, Erlanger, KY, USA, March 1-2, 2013.

70. Huq, M.S., TG100 – Process QA with FMEA, QA and Dosimetry Symposium, Exploring the future of QA and dosimetry, Orlando, Florida, USA, April 5-6, 2013.

71. Huq, M.S., Tools for developing a quality management program in radiation oncology, Sixth annual dosimetry symposium, UPMC CancerCenter, Pittsburgh, PA, May 18, 2013.

72. Huq, M.S., Risk assessment introduction - TG100, 2013 AAPM summer school, Quality and Safety in Radiotherapy: Learning the New Approaches in TG100 and Beyond, Colorado College, Colorado Springs, Colorado, USA, June 16-20, 2013.

73. Huq, M.S., Fault trees, 2013 AAPM summer school, Quality and Safety in Radiotherapy: Learning the New Approaches in TG100 and Beyond, Colorado College, Colorado Springs, Colorado, USA, June 16-20, 2013.

74. Huq, M.S., Exercise - Fault tree, 2013 AAPM summer school, Quality and Safety in Radiotherapy: Learning the New Approaches in TG100 and Beyond, Colorado College, Colorado Springs, Colorado, USA, June 16-20, 2013.

75. Huq, M.S., Introduction to risk assessment and safety processes, Therapy symposium on Formal Radiation Therapy Safety Processes at the 55th Annual meeting of the AAPM, Charlotte, NC, USA, Aug 5-Aug 8, 2013.

76. Huq, M.S., AAPM TG100: A new paradigm for quality management in radiation therapy, Joint Ohio River Valley Chapter and Penn Ohio chapter Fall Symposium, Beachwood, Ohio, USA, October 11-12, 2013.

77. Huq, M.S., How to deal with moving targets: role of imaging in the management of respiration induced tumor motion, 2nd Annual UPMC Beacon Hospital and UPMC International Stereotactic Radiosurgery and Stereotactic Body radiotherapy Symposium, Dublin, Ireland, October 18 – 19, 2013 (Scheduled).

78. Huq, M.S., Is hypo-fractionation going to be the standard of care in the next decade? 2nd Annual UPMC Beacon Hospital and UPMC International Stereotactic Radiosurgery and Stereotactic Body radiotherapy Symposium, Dublin, Ireland, October 18 – 19, 2013 (Scheduled).

79. Huq, M.S., Hazard or risk based quality management program: the next frontier for improving quality and patient safety", Oncology Grand rounds, London Health Sciences Centre, London Regional cancer Program, London, Ontario, Canada, October 29, 2013.

80. Huq, M.S., Introduction to risk management and process mapping, National Training and Workshop on the Use of ICT in the Management of Radiation Incidents in Clinical Practice, Cape Town, South Africa, November 26-29, 2013.

81. Huq, M.S., Failure Mode and Effects Analysis, National Training and Workshop on the Use of ICT in the Management of Radiation Incidents in Clinical Practice, Cape Town, South Africa, November 26-29, 2013.

82. Huq, M.S., Fault Tree Analysis, National Training and Workshop on the Use of ICT in the Management of Radiation Incidents in Clinical Practice, Cape Town, South Africa, November 26-29, 2013.

83. Huq, M.S., Design of Quality Management Program, National Training and Workshop on the Use of ICT in the Management of Radiation Incidents in Clinical Practice, Cape Town, South Africa, November 26-29, 2013.

84. Huq, M.S., Incident Management Program –UPMC CancerCenter, National Training and Workshop on the Use of ICT in the Management of Radiation Incidents in Clinical Practice, Cape Town, South Africa, November 26-29, 2013.

85. Huq, M.S., International guidelines for notification of incidents, National Training and Workshop on the Use of ICT in the Management of Radiation Incidents in Clinical Practice, Cape Town, South Africa, November 26-29, 2013.

86. Huq, M.S., Calibration of Photon and electron beams following the recommendations of TRS398; International Conference on Radiation Medicine: Clinical Applications and Innovative Resources at the King Faisal Specialist Hospital & Research Center, Riyadh, Kingdom of Saudi Arabia, February 16 – February 20, 2014.

87. Huq, M.S., Imaging for stereotactic radiosurgery and stereotactic Ablative Body Radiotherapy; International Conference on Radiation Medicine: Clinical Applications and Innovative Resources at the King Faisal Specialist Hospital & Research Center, Riyadh, Kingdom of Saudi Arabia, February 16 – February 20, 2014.

88. Huq, M.S., IMRT – an overview; International Conference on Radiation Medicine: Clinical Applications and Innovative Resources at the King Faisal Specialist Hospital & Research Center, Riyadh, Kingdom of Saudi Arabia, February 16 – February 20, 2014.

89. Huq, M.S., Who's Who at ICRM: American Association of Physicists in Medicine (AAPM); International Conference on Radiation Medicine: Clinical Applications and Innovative Resources at the King Faisal Specialist Hospital & Research Center, Riyadh, Kingdom of Saudi Arabia, February 16 – February 20, 2014.

90. Huq, M.S., Hazard or risk based quality management program: the next frontier for improving quality and patient safety; International Conference on Radiation Medicine: Clinical Applications and Innovative Resources at the King Faisal Specialist Hospital & Research Center, Riyadh, Kingdom of Saudi Arabia, February 16 – February 20, 2014.

91. Huq, M.S., Radiation therapy: state of the art and the future, Seventh annual dosimetry symposium, UPMC CancerCenter, Pittsburgh, PA, March 29, 2014.

92. Huq, M.S., Is the use of golden beam data and beam matching a safe strategy, XVI Congresso Da Sociedade Brasileira de Radioterapia, Sao Paolo, Brazil, April 30 – May 3, 2014.

93. Huq, M.S., Tools for risk based quality management program in radiation therapy, XVI Congresso Da Sociedade Brasileira de Radioterapia, Sao Paolo, Brazil, April 30 – May 3, 2014.

94. Huq, M.S., Small field dosimetry: the challenges and recent progress, XVI Congresso Da Sociedade Brasileira de Radioterapia, Sao Paolo, Brazil, April 30 – May 3, 2014.

95. Huq, M.S., Radiation therapy: state of the art and the future, XVI Congresso Da Sociedade Brasileira de Radioterapia, Sao Paolo, Brazil, April 30 – May 3, 2014.

96. Huq, M.S., Failure Mode and Effects Analysis, Therapy Educational Course on Risk Based Quality Management: TG 100 in action at the 56th Annual meeting of the AAPM, Austin, TX, USA, July 20 - 24, 2014.

97. Huq, M.S., How AAPM Task Groups TGs are born, 2014 AAPM Penn-Ohio chapter Fall Educational Symposium: Thriving and surviving in the Task group Matrix, Pittsburgh, PA, USA, October 17-18, 2014.

98. Huq, M.S., Small field dosimetry, 2014 AAPM Penn-Ohio chapter Fall Educational Symposium: Thriving and surviving in the Task group Matrix, Pittsburgh, PA, USA, October 17-18, 2014.

99. Huq, M.S., Radiation therapy: State of the art and the future, 2014 AAPM Penn-Ohio chapter Fall Educational Symposium: Thriving and surviving in the Task group Matrix, Pittsburgh, PA, USA, October 17-18, 2014.

100. Huq, M.S., Radiation therapy: state of the art and the future; Radiation Oncology Grand Round, Case Western Reserve University, Cleveland, Ohio; January 6, 2015.

101. Huq, M.S., Radiation therapy: State of the art and the future, International conference on Physics in Medicine and Clinical Neuroelectrophysiology, Dhaka, Bangladesh, February 19-20, 2015.

102. Huq, M.S., The rollout of AAPM TG100: Getting engaged in risk assessment in the session "Collective efforts to improve patient safety through change, AAPM Spring Clinical Meeting, St Louis, MO, March 7-10, 2015.

PROFESSIONAL ACTIVITIES

TEACHING:

1990 – 2004	Taught radiation oncology residents, clinical medical physics residents and postdoctoral fellows the physics of radiation therapy through didactic courses at Thomas Jefferson University Hospital. Provided consultations in the clinic.
1990 – 2004	Taught radiation oncology technology students at Thomas Jefferson University Hospital the physics of radiation therapy.
2004- -present	Teach radiation oncology residents, clinical Medical Physics residents and postdoctoral fellows the physics of radiation therapy through didactic courses at UPMC CancerCenter. Provide consultations in the clinic.
2004 – present	Teach the medical dosimetrists trainees the physics of radiation therapy at UPMC CancerCenter.
2004 – present	Direct research activities of postdoctoral fellows in medical physics and radiation oncology residents.

RESEARCH:

Active Grant Support

RTOG

01/12 – 12/15 Principal Investigator: M. Saiful Huq, American College of Radiology, PA Tobacco Grant: "Biological Modeling of Tumor Control and Normal Tissue Complication for NSCLC Treated with SABR"; $100,000, Huq, Saiful 5% effort

GE 4D PET Gates

07/13 – 06/14 Principal Investigator: M. Saiful Huq, submitted GE Healthcare – Molecular Imaging: "Effect of Synchronized Averaging of 4D PET Gates on Signal Quality"; $50,000, Huq, Saiful 1% effort, Michalski, Darius, 5% effort

Inactive Grant Support

09/10/08-02/28/11 Principal Investigator: Louis Falo, Co-Investigator: M. Saiful Huq for the NIAID 1RC1AI081284-01, "Novel Cutaneous Radiation Countermeasure" ($1,000,000)

09/10/08-02/28/11 Principal Investigator: Louis Falo, Co-Investigator: M. Saiful Huq for the NIAID 3RC1AI081284-01S1, "Novel Cutaneous Radiation Countermeasure." ($716,083)

3/26/09-03/25/11 Co-Principal Investigator, - UPMC/D3 Research Project -"To perform an outcome Analysis for SRS Treatment of Lung Cancer Using 4D CT, PET, RPM, and Body Fix immobilization System" (Varian Medical Systems, $750,000).

1/1/06-12/31/08 Co-Principal Investigator, Dynamic Tumor Volumetric Regression Analysis Using Cone-Beam and PET/CT in NSCLC (American College of Radiology, PA Tobacco Grant, $239,588).

4/1/05-3/31/08 Co-Principal Investigator - UPMC/D3 research project - "A total of 4 research projects were funded to study) inter-fractional reproducibility study of lung tumor inter-fractional motion, ii) inter-fraction motion induced dosimetric impacts in breast 3D radiation treatment, iii) implementation of six degree target shift correction and iv) determine whether a modified gating method can be substituted for a 4DCT scan based motion management technique" for a total amount of $500,000.

9/1/97-8/30/04 Co-Investigator for the NCI Grant # 2U10 CA21661-27, ($37,080.00 per year). Group Physicist for the Quality Control Division of Radiation Therapy Oncology Group (RTOG).

10/99-10/00 A grant of $3000.00 from Scanditronix/Wellhöfer to evaluate various plane parallel and cylindrical chambers. 100% effort

SERVICE:

NATIONAL COMMITTEES AND TASK GROUPS:

Member, AAPM Task Group (TG 48) on Intra-operative Radiation Therapy
Member, AAPM Task Group (TG51) on Calibration of High Energy Photon & Electron Beams 1992-1999
Member AAPM Science Council, as Liaison to AAPM Professional Council 1994-1999
Member , AAPM Professional Council, as Liaison from AAPM Science Council, 1994-1999
RSNA Program Committee, Member as Liaison from Science Council of Science Council 1994-1999
Member, AAPM Professional Council Ethics Committee, 1994-1999.
Member, AAPM International Scientific Exchange Programs Subcommittee (Consultant – Bangladesh (T - 01)) 1997 - 2006
Member, Asian Oceanic Affairs Subcommittee, Liaison Bangladesh, 1998 - 2006
Member, RTC Subcommittee for QA Physics of Cooperative Trials, 2001 - 2004
Member, Medical Physics Committee, Radiation Therapy Oncology Group (RTOG) 1997-2004
Member, Quality Control Committee, Radiation Therapy Oncology Group (RTOG) 1997-2004
Member, Image Guided Radiotherapy Committee, Radiation Therapy Oncology Group (RTOG) 2000-2004

Member, Research Strategy Committee, Radiation Therapy Oncology Group (RTOG) 1997-2004
Member, Membership Evaluation Committee, Radiation Therapy Oncology Group (RTOG) 1997-2004
Member, AAPM Task Group (TG #66) on Quality Assurance for CT Simulator, 2001-2003
Member, AAPM Exchange Scientist Program Subcommittee 2000 - 2006
Member, AAPM Radiation Therapy Committee as Former Member for non-contiguous terms, January 2000- December 2004
Member of AAPM Radiation Therapy Committee as *chair of Calibration Laboratory Accreditation Subcommittee*, 2001-2004
Member of AAPM Therapy Physics Committee as *chair of Calibration Laboratory Accreditation Subcommittee*, December 2004- December 2005
Member, AAPM Task Group (TG #71) on Monitor Unit Calculations, 2001-present
Member, AAPM Task Group (TG #70) on Electron Beam Dosimetry, 2001- 2009
Chair, Calibration Laboratory Accreditation Subcommittee (Radiation Therapy), AAPM, 2001-2005
Member, Photon Emitting Brachytherapy Dosimetry Subcommittee (Radiation Therapy), AAPM, 2003-2004
Brachytherapy Subcommittee of Radiation Therapy Committee of AAPM, Liaison from CLA SC, January 2005 – December 2005
Member, Low Energy Brachytherapy Source Dosimetry Work Group, January 2005 – December 2005
Member, Low Energy Brachytherapy Source Calibration, 2006-2008
Member, Council on Ionizing Radiation Measurements and Standards (CIRMS), 2000- 2005
Chair, AAPM Task Group (TG #100), 2003-present
Member, Leadership Team, Radiation Physics Committee, American Society for Therapeutic Radiology and Oncology (ASTRO), 2003-2004
Member, AAPM Therapy Physics Committee, 2004-2006
Vice Chair, AAPM Therapy Physics Committee, 2006- 2011
Member, AAPM Science Council *as Vice Chair of Therapy Physics*, 2006- 2011
Member, Calibration Laboratory Accreditation Subcommittee, AAPM, January 2006 – December 2006
Member, AAPM Task Group (TG #155), 2007-present
Member, AAPM Therapy Emerging Technology Assessment Working Group, 2008-2011
Member, AAPM Task Group 131, 2010-2013
Chair, AdHoc Committee on Centers for Radiologic Physics, March 2010-December 2010
Member, AAPM Working Group on Dosimetry Calibration Protocol for Beams that are not Compliant with TG-51, 2007-2009, 2011-2013
Member, AAPM Work Group on Prevention of errors in Radiation Oncology, *ex officio*, 2003-
Member, Radiation Physics Committee of the Science Council, American Society for Therapeutic Radiology and Oncology (ASTRO), 2011-2014
Member, AAPM Radiation Oncology Medical Physics Education Subcommittee. 2011- 2014
Member as *Council Vice Chair of Therapy Physics- Chair of TPC,* AAPM Science Council, 2012- 2014
Chair, AAPM Therapy Physics Committee, 2012 - 2014
Member, AAPM Board of Directors, as Board Member-At-Large, *Vice Chair, Science Council*, 2013-2015
Guest, AAPM Board of Directors, as Guest, *2012 -2014 Board Member-At-Large*, July 2011 – December 2011
Member, AAPM Board of Directors, as Board Member-At-Large, 2012 – 2014
Member, Finance Committee as Guest - Science Council Vice Chair, AAPM, 11/28/2012- 12/31/2015
Member, Radiation Oncology Medical Physics Education Sub-committee, AAPM, 8/10/2011 – 12/31/2014
Council Vice Chair Science Council of *Therapy Physics* - Chair of Therapy Physics Committee, 1/1/2012 – present8
Member, Government and Regulatory Affairs Policy Sub-committee, as Liaison – IAEA, 1/1/2013 - present
Member, AAPM International Educational Activities Committee, as Liaison – IAEA, 1/1/2013 – present
Member, Multidisciplinary Q&A Subcommittee, American Society for Therapeutic Radiology and Oncology (ASTRO), 2013-2014

Member, Clinical, Translational and Basic Science Advisory Committee, American Society for Therapeutic Radiology and Oncology (ASTRO), 2013-2014
Member, Clinical, Translational and Basic Science Advisory Committee, American Society for Therapeutic Radiology and Oncology (ASTRO), 2014-2015
Member, AAPM ad Hoc Committee on Reports Integration, Jan 2014- Dec 2014

INTERNATIONAL COMMITTEES:

Member, IAEA Standing Advisory Group, "Scientific Committee of the IAEA/WHO SSDL Network", 1996
Member, IAEA Task Force responsible for producing a new International Code of Practice based on Standard of Absorbed Dose-to-Water, 1997-200.
Member, IAEA Standing Advisory Group, "Scientific Committee of the IAEA/WHO SSDL Network", 2000.
Member, IAEA Consultants Technical Meeting on IMRT, Vienna, Austria, June 2006
Member, IAEA Consultants Meeting on the Preparation of Guidelines on Transition from Conventional to 3D Conformal Radiotherapy Programme, IAEA, Vienna, 25-29 September 2006
Member, IAEA Consultants Meeting for the Dosimetry COP: Small fields and Novel Beams, December 2007
Member, IAEA Consultants Meeting on Developing Training Materials To Support the Implementation of 3D Conformal radiotherapy and Intensity Modulated Radiotherapy, IAEA, Vienna, 4-8 October, 2010
Member, IAEA Consultants Meeting on Development of Guidelines for Dosimetry Measurements for small and Irregular Fields, IAEA, Vienna, 31 January – 4 February, 2011
Advisor, South Asian Association for Regional Cooperation (SAARC) Federation of Oncologists, 2013-present
Member, Awards and Honors Committee, International Organization of Medical Physics, 2013- present

EDITORIAL BOARD:

Member of the International Advisory Board for Physics in Medicine and Biology, 2002 – 2005

Founding Board member of the Editorial Board of the Journal of Biomedical Physics and Engineering Express, 2015-2016.

EXPERT MISSION:

Performed a site visit in Bangladesh as a World Health Organization (WHO) expert in Medical Physics to evaluate the up-gradation of National Institute of Cancer Research & Hospital (NICR&H), Dhaka, Bangladesh from 50 beds to 300 beds and making it as a “Center of Excellence” for the country. The site visit took place from December 15-19, 2003 and consisted of a “Team of Experts of different specialties” from different countries.

Performed an expert mission in Bangladesh on behalf of IAEA to “Assess implementation of 3-D conformal radiotherapy and related QA/QC”. The site visit took place from December 11-13, 2012.

Performed an expert mission in Bangladesh on behalf of IAEA to conduct a 4-day workshop on IAEA TRS 398 Code of Practice as part of the National training program on Radiation oncology. The workshop took place from November 18-21, 2014.

OTHER PROFESSIONAL ACTIVITIES:

Reviewer of AAPM Annual Meeting Abstracts for 2008-2013
Reviewer of ASTRO Annual Meeting Abstracts for 2008-2011
Oral Board Examiner for American Board of Radiology, Therapeutic Radiological Physics, 2001, 2002, 2003, 2004, 2006, 2007, 2009, 2011
Oral Board Examiner for American Board of Medical Physics, 2001.
Reviewer and Guest Associate Editor for the Journal of Medical Physics
Reviewer for the International Journal of Radiation Oncology, Biology, Physics
Reviewer for the Journal of Radiation Oncology Investigations
President, Delaware Valley Chapter of the AAPM, 1995, 1996
Secretary-Treasurer, Delaware Valley Chapter of the AAPM, 1993, 1994
Co-Chairperson, Local Arrangement Committee, 1996 Annual Meeting of the AAPM, July 21-25, 1996, Philadelphia, PA