



Phillip J. Taddei, Ph.D., DABR

Office Phone: +961-1-350-000 ext. 5101

Clinic Phone: +961-1-350-000 ext. 5090

Email: pt06 @aub.edu.lb

Present Title & Affiliation

Primary Appointment

Assistant Professor of Radiation Oncology, Department of Radiation Oncology, Faculty of Medicine, American University of Beirut Medical Center, Beirut, Lebanon

Dual/Joint/Adjunct Appointment

Adjunct Assistant Professor, Department of Radiation Physics, Division of Radiation Oncology, The University of Texas MD Anderson Cancer Center, Houston, TX

Education

- 2005 Colorado State University, Fort Collins, CO, Ph.D., Radiological Health Sciences (Radiation Physics)
- 1997 University of Minnesota, Minneapolis, MN, B.S., Physics

Academic Experience & Service

- Visiting Assistant Professor, American University of Beirut Medical Center, Beirut, Lebanon, 2011-2013
- Associate Faculty, The University of Texas MD Anderson Cancer Center, Houston, TX, 2010-2013
- Assistant Professor, The University of Texas MD Anderson Cancer Center, Houston, TX, 2009-2013
- Research Scientist, The University of Texas MD Anderson Cancer Center, Houston, TX, 2006-2009
- Postdoctoral Fellow, United States Naval Academy, Annapolis, MD, 2005-2006
- Graduate Research Assistant, Colorado State University, Fort Collins, CO, 2000-2005
- Teacher, SWCHS, Eden Prairie, MN, 1999-2000
- Teaching Assistant, University of Minnesota, Minneapolis, MN, 1996-1997
- Research Assistant, SUNY-Stony Brook, Stony Brook, NY, 1996

Board Certifications

Areas of Interest

Dose reconstruction in radiotherapy patients, pediatric radiation oncology, prediction of radiation-induced late effects and radiation carcinogenesis, Monte Carlo simulations of radiation transport, microdosimetry, radiation detection and measurement

Peer-Reviewed Publications

1. Taddei PJ, Khater N, Zhang R, Geara FB, Mahajan A, Jalbout W, Pérez-Andújar A, Youssef B, Newhauser WD. Inter-institutional comparison of personalized risk assessments for second malignant neoplasms for a 13-year-old girl receiving proton versus photon craniospinal irradiation. *Cancers*, in press. e-Pub 10/8/2013. PMC Journal – In Process
2. [Zhang R, Howell RM, Taddei PJ, Giebeler A, Mahajan A, Newhauser WD](#). A comparative study on the risks of radiogenic second cancers and cardiac mortality in a set of pediatric medulloblastoma patients treated with photon or proton craniospinal irradiation. *Radiother Oncol*, 113:84-8, 2014. PMID: PMC4256116.
3. [Taddei PJ, Jalbout W, Howell RM, Khater N, Geara FB, Homann K, Newhauser WD](#). Analytical model for out-of-field dose in photon craniospinal irradiation. *Phys Med Biol* 58(21):7463-79, 11/7/2013. e-Pub 10/8/2013. PMC Journal – In Process.
4. [Zhang R, Howell RM, Homann K, Giebeler A, Taddei PJ, Mahajan A, Newhauser WD](#). Predicted risks of radiogenic cardiac toxicity in two pediatric patients undergoing photon or proton radiotherapy. *Radiat Oncol* 8(1):184, 7/23/2013. PMID: PMC3751146.
5. [Pérez-Andújar A, Newhauser WD, Taddei PJ, Mahajan A, Howell RM](#). The predicted relative risk of premature ovarian failure for three radiotherapy modalities in a girl receiving craniospinal irradiation. *Phys Med Biol* 58(10):3107-23, 5/21/2013. e-Pub 4/19/2013. PMID: PMC3875375.
6. [Zhang R, Howell RH, Giebeler A, Taddei PJ, Mahajan A, Newhauser WD](#). Comparison of risk of radiogenic second cancer following photon and proton craniospinal irradiation for a pediatric medulloblastoma patient. *Phys Med Biol* 58(4):807-23, 2/21/2013. e-Pub 1/16/2013. PMID: PMC3615542.
7. [Wang X, Amos RA, Zhang X, Taddei PJ, Woodward WA, Hoffman KE, Yu TK, Tereffe W, Oh J, Perkins GH, Salehpour M, Zhang SX, Sun TL, Gillin M, Buchholz TA, Strom EA](#). External-Beam Accelerated Partial Breast Irradiation Using Multiple Proton Beam Configurations. *Int J Radiat Oncol Biol Phys* 80(5):1464-72, 8/1/2011. e-Pub 8/12/2010. PMID: PMC3249354.
8. [Yepes PP, Mirkovic D, Taddei PJ](#). A GPU implementation of a track-repeating algorithm for proton radiotherapy dose calculations. *Phys Med Biol* 55(23):7107-7120, 12/7/2010. e-Pub 11/12/2010. PMID: PMC3001323.
9. [Zhang R, Pérez-Andújar A, Fontenot JD, Taddei PJ, Newhauser WD](#). An analytic model of neutron ambient dose equivalent and equivalent dose for proton radiotherapy. *Phys Med Biol* 55(23):6975-85, 12/7/2010. e-Pub 11/12/2010. PMID: PMC3001300.
10. [Taddei PJ, Chell E, Hansen S, Gertner M, Newhauser WD](#). Assessment of targeting accuracy of a low-energy stereotactic radiosurgery treatment for age-related macular degeneration. *Phys Med Biol* 55(23):7037-54, 12/7/2010. e-Pub 11/12/2010. PMID: PMC3001331.
11. [Howell RM, Scarboro SB, Taddei PJ, Krishnan S, Kry SF, Newhauser WD](#). Methodology for determining doses to in-field, out-of-field, and partially in-field organs for late effects studies in photon radiotherapy. *Phys Med Biol* 55(23):7009-23, 12/7/2010. e-Pub 11/12/2010. PMID: PMC3001332.
12. [Taddei PJ, Mahajan A, Mirkovic D, Zhang R, Giebeler A, Kornguth D, Harvey M, Woo S, Newhauser WD](#). Predicted risks of second malignant neoplasm incidence and mortality due to secondary neutrons in a girl and boy receiving proton craniospinal irradiation. *Phys Med Biol* 55(23):7067-80, 12/7/2010. e-Pub 11/12/2010. PMID: PMC3001324.
13. [Taddei PJ, Howell RM, Krishnan S, Scarboro SB, Mirkovic D, Newhauser WD](#). Risk of second malignant neoplasm following

proton versus intensity-modulated photon radiotherapies for hepatocellular carcinoma. *Phys Med Biol* 55(23):7055-65, 12/7/2010. e-Pub 11/12/2010. PMID: PMC3001302.

14. [Yepes PP, Brannan T, Huang J, Mirkovic D, Newhauser WD, Taddei PJ, Titt U.](#) Application of a fast proton dose calculation algorithm to a thorax geometry. *Radiat Meas* 45(10):1367-8, 12/1/2010. PMID: PMC3085469.
15. [Titt U, Mirkovic D, Sawakuchi GO, Perles LA, Newhauser WD, Taddei PJ, Mohan R.](#) Adjustment of the lateral and longitudinal size of scanned proton beam spots using a pre-absorber to optimize penumbrae and delivery efficiency. *Phys Med Biol* 55(23):7097-106, 12/2010. e-Pub 11/2010. PMID: PMC3001334.
16. [Zhang R, Taddei PJ, Fitzek MM, Newhauser WD.](#) Water equivalent thickness values of materials used in beams of protons, helium, carbon and iron ions. *Phys Med Biol* 55(9):2481-2493, 5/7/2010. e-Pub 4/6/2010. PMID: 20371908.
17. [Yepes P, Randeniya S, Taddei PJ, Newhauser WD.](#) A track-repeating algorithm for fast Monte Carlo dose calculations of proton radiotherapy. *Nucl Technol* 168(3):736-740, 12/1/2009. PMID: PMC2943387.
18. [Randeniya SD, Taddei PJ, Newhauser WD, Yepes P.](#) Intercomparison of Monte Carlo Radiation Transport Codes MCNPX, GEANT4, and FLUKA for Simulating Proton Radiotherapy of the Eye. *Nucl Technol* 168(3):810-814, 12/2009. PMID: PMC2943388.
19. [Fontenot JD, Taddei P, Zheng Y, Mirkovic D, Newhauser WD.](#) Ambient dose equivalent versus effective dose for quantifying stray radiation exposures to a patient receiving proton therapy for prostate cancer. *Nucl Technol* 168(1):173-177, 10/1/2009. PMID: PMC2938795.
20. [Taddei PJ, Mirkovic D, Fontenot JD, Giebeler A, Zheng Y, Titt U, Woo S, Newhauser WD.](#) Reducing stray radiation dose for a pediatric patient receiving proton craniospinal irradiation. *Nucl Technol* 168(1):108-112, 10/1/2009. PMID: PMC2943394.
21. [Taddei PJ, Mirkovic D, Fontenot JD, Giebeler A, Zheng Y, Kornguth D, Mohan R, Newhauser WD.](#) Stray radiation dose and second cancer risk for a pediatric patient receiving craniospinal irradiation with proton beams. *Phys Med Biol* 54(8):2259-2275, 4/21/2009. e-Pub 3/20/2009. PMID: 19305045.
22. [Newhauser WD, Fontenot JD, Mahajan A, Kornguth D, Stovall M, Zheng Y, Taddei PJ, Mirkovic D, Mohan R, Cox JD, Woo S.](#) The risk of developing a second cancer after receiving craniospinal proton irradiation. *Phys Med Biol* 54(8):2277-2291, 4/21/2009. e-Pub 3/20/2009. PMID: 19305036.
23. [Newhauser WD, Fontenot JD, Taddei PJ, Mirkovic D, Giebeler A, Zhang R, Mahajan A, Kornguth D, Stovall M, Yepes P, Woo S, Mohan R.](#) Contemporary proton therapy systems adequately protect patients from exposure to stray radiation. *AIP Conf Proc* 1099(1):450-455, 3/10/2009. PMID: PMC2939014.
24. [Taddei PJ, Krishnan S, Mirkovic D, Yepes P, Newhauser WD.](#) Effective dose from stray radiation for a patient receiving proton therapy for liver cancer. *AIP Conf Proc* 1099:445-449, 3/10/2009. PMID: PMC2943390.
25. [Yepes P, Randeniya S, Taddei PJ, Newhauser WD.](#) Monte Carlo fast dose calculator for proton radiotherapy: application to a voxelized geometry representing a patient with prostate cancer. *Phys Med Biol* 54(1):N21-N28, 1/7/2009. e-Pub 12/10/2008. PMID: 19075361.
26. [Taddei PJ, Fontenot JD, Zheng Y, Mirkovic D, Lee AK, Titt U, Newhauser WD.](#) Reducing stray radiation dose to patients receiving passively-scattered proton radiotherapy for prostate cancer. *Phys Med Biol* 53(8):2131-2147, 4/21/2008. e-Pub 3/27/2008. PMID: 18369278.
27. [Fontenot J, Taddei P, Zheng Y, Mirkovic D, Jordan T, Newhauser W.](#) Equivalent dose and effective dose from stray radiation during passively scattered proton radiotherapy for prostate cancer. *Phys Med Biol* 53(6):1677-1688, 3/21/2008. e-Pub 2/29/2008. PMID: 18367796.
28. [Zheng Y, Fontenot J, Taddei P, Mirkovic D, Newhauser W.](#) Monte Carlo simulations of neutron spectral fluence, radiation weighting factor and ambient dose equivalent for a passively scattered proton therapy unit. *Phys Med Biol* 53(1):187-201, 1/7/2008. e-Pub 12/19/2007. PMID: 18182696.
29. [Taddei PJ, Zhao Z, Borak TB.](#) A comparison of the measured responses of a tissue-equivalent proportional counter to high energy heavy (HZE) particles and those simulated using the Geant4 Monte Carlo code. *Radiat Meas* 43:1498-1505, 2008.
30. [Zheng Y, Newhauser W, Fontenot J, Taddei P, Mohan R.](#) Monte Carlo study of neutron dose equivalent during passive

31. [Pisacane VL, Dolecek Q, Maas F, Nelson M, Taddei P, Zhao Z, Ziegler J, Dicello J, Cucinotta F, Rosenfeld A, Wroe A, Zaider M.](#) 2006-01-2146 MIDN, MicroDosimeter iNstrument (MIDN) on MidSTAR-I. *SAE T J Aerospace* 115:355-359, 2007.
32. [Taddei PJ, Borak TB, Guetersloh SB, Gersey BB, Zeitlin C, Heilbronn L, Miller J, Murakami T, Iwata Y.](#) The response of a spherical tissue-equivalent proportional counter to different heavy ions having similar velocities. *Radiat Meas* 41(9-10):1227-1234, 10/2006. PMID: PMC2600531.
33. [Guetersloh SB, Borak TB, Taddei PJ, Zeitlin C, Heilbronn L, Miller J, Murakami T, Iwata Y.](#) The Response of a Spherical Tissue-Equivalent Proportional Counter to Different Ions Having Similar Linear Energy Transfer. *Radiat Res* 161(1):64-71, 1/2004. PMID: 14680395.
34. [Borak TB, Doke T, Fuse T, Guetersloh S, Heilbronn L, Hera K, Moyers M, Suzuki S, Taddei P, Teresawa K, Zeitlin CJ.](#) Comparisons of LET distributions for protons with energies between 50 and 200 MeV using a spherical tissue-equivalent proportional counter (TEPC) and a position-sensitive silicon-spectrometer (RRMD-III). *Radiat Res* 162:687-692, 2004.