CURRICULUM VITAE

A. Personal Experience

Personal Background

Name :	Wassim Jalbout, PhD, D.ABR, MBA
Nationality :	Canadian
Title :	Head of Medical Physics Section
Institution :	American University of Beirut Medical Center
Address:	Radiation Oncology Department
	Riad El Solh 1107 2020
	Beirut, Lebanon
	Mobile +9613654255

Languages

English	Fluent
French	Fluent
Arabic	Fluent
Portuguese	Basic

Work Experience

1998 - Present

Head of Medical Physics Section
Medical Physics Residency Program Director
Department of Radiation Oncology
American University of Beirut Medical Center, Beirut-Lebanon

Responsibilities and experience with
-Department startup and commissioning (Linear accelerator, brachytherapy unit, treatment planning system, staffing, staff training, equipment selection and acceptance, policies and procedures, establishing residency in medical physics …)
-Linear accelerator quality assurance
-Intensity Modulated RadioTherapy (IMRT) planning and quality assurance
-Stereotactic RadioSurgery (SRS) and RadioTherapy (SRT) treatment planning and quality assurance
-Stereotactic Body RadioTherapy (SBRT) treatment planning
-Total Body Irradiation (TBI) planning and quality assurance
-Image Guided RadioTherapy (IGRT) quality assurance
-High Dose Rate (HDR) Brachytherapy treatment planning and quality assurance
-Eye Plaque Brachytherapy treatment planning
-Intravasvcular Brachytherapy treatment planning and delivery
-Medical Physics teaching to medical residents and medical physics residents
-General Physics lecturing

-Directing medical physics residency
-Shielding design for radiotherpay and radiology departments
-Patient chart checking
-Physicists, Dosimetrists and Therapists supervision
-Chairing Hospital Radiation Safety Committee
-Regional Consulting: starting new Radiotherapy Centers
-Contributing expert to the International Atomic Energy Agency (IAEA) in Medical Physics.

1997 - 1998 **Senior Medical Physicist**
Department of Radiation Oncology
Tawam Governmental Hospital, Abu Dhabi, UAE

1996 – 1997 **Medical Physicist**
Department of Radiation Oncology
University of Pennsylvania, Philadelphia, Pennsylvania

1995 – 1996 **Junior Medical Physicist**
Department of Radiation Oncology
Bethesda Memorial Hospital, Boynton Beach, Florida

Educational Background

2007 **Master of Business Administration (MBA)**
Healthcare Management
University of Sorbonne-Dauphine, Paris, France /USJ

2005 **Doctor of Philosophy (PhD)**
Medical Physics
University of Surrey, Guildford, UK

1995 **Master of Science (MSc)**
Medical Physics
Wayne State University, Detroit, Michigan

1991 **Bachelor of Science (BSc)**
Electrical Engineering
American University of Beirut, Beirut, Lebanon

Training and Fellowship

2005 - 2005 **Clinical Residency**
Radiation Oncology Department
Wayne State University, Detroit, Michigan

Honors and Awards

1994 **Thomas C Ramble Award for Academic Excellence**
Wayne State University, Detroit, Michigan

Professional Involvement

Certifications

2015 **Diplomate of the American Board of Radiology (ABR)**
Therapeutic Radiologic Physics

B. Research

Peer Reviewed Journal Publications

1. Jalbout W, Jbara R, Rizk C, Youssef B. On the risk of secondary cancer from thymoma radiotherapy. Phys Med Biol. 2022 Jul 25;67(15). doi: 10.1088/1361-6560/ac7c50. PMID: 35876010.

2. Z. Al Kattar, H. El Balaa, I. Duhaini, B. Chahine, W. Jalbout, M. Moussallem, H. Rima, D. Saadeddine. Medical Physics status and challenges in Lebanon. Medical Physics International Journal, vol.9, No.1, 2021

3. Kyle J Gallagher, Bassem Youssef, Rola Georges, Anita Mahajan, Joelle Ann Feghali, Racile Nabha, Zeina Ayoub, Wassim Jalbout, and Phillip J Taddei. Proton radiotherapy could reduce the risk of fatal second cancers for children with intracranial tumors in a low- and middle-income country. IJPT December 2020. DOI 10.14338/IJPT-20-00041.1

4. Kyle J Gallagher, Bassem Youssef, Rola Georges, Anita Mahajan, Joelle Ann Feghali, Racile Nabha, Zeina Ayoub, Wassim Jalbout, and Phillip J Taddei. Proton radiotherapy could reduce the risk of fatal second cancers for children with intracranial tumors in a low- and middle-income country. IJPT December 2020. DOI 10.14338/IJPT-20-00041.1

5. Jalbout W, Abou Zahr J, Youssef B and Shahine B (2019) On the Feasibility of Stereotactic Radiosurgery With 5.0 and 10.0 mm MLC Leaves as a Function of Target Size and Shape. *Front. Oncol.* 9:741. doi: 10.3389/fonc.2019.00741

6. Lara Hilal, Hana Mekdash, Paul Ramia, Mustafa Jammal, Dima Mahmoud, Bilal Shahine, Toufic Eid, Wassim Jalbout, Helena Abdul Khalek, Fady Geara, Youssef H. Zeidan and Bassem Youssef. A Novel Three Dimensional Conformal Radiation Therapy Technique to Decrease the Mean Parotid Gland Dose in Whole Brain Radiation Therapy. J Nucl Med Radiat Ther, April 2019.

7. Abbas Mkanna, Osama Mohamad, Paul Ramia, Ranim Thebian, Maha Makki, Hani Tamim, Wassim Jalbout, Bassem Youssef, Toufic Eid, Fady Geara, Bilal Shahine, Youssef Zeidan. Predictors of Cardiac Sparing in Deep Inspiration Breath-hold for Patients with Left Sided Breast Cancer. Front. Oncol., 27 November 2018. https://doi.org/10.3389/fonc.2018.00564

8. Osman AF, Jalbout W. correction factors for Diode and Diamond detectors in the measurement of small field output factors, using film dosimetry as reference. Biomedical Physics and Engineering Express 4 (2018) 055011

9. Taddei PJ, Khater N, Youssef B, Howell RM, Jalbout W, Zhang R, Geara FB, Giebeler A, Mahajan A, Mirkovic D, Newhauser WD. Low- and middle-income countries can reduce risks of subsequent neoplasms by referring pediatric craniospinal cases to centralized proton treatment centers. Biomed. Phys. Eng. Express. 4 025029 (2018).

10. Gallagher, Kyle; Tannous, Jaad; Nabha, Racile; Feghali, Joelle ; Ayoub, Zeina; Jalbout, Wassim; Youssef, Bassem; Taddei, Phillip. Supplemental computational phantoms to estimate out-of-field absorbed dose in photon radiotherapy. Phys. Med. Biol. 63 025021 (2018)

11. Marwan M. Refaat, Jad A. Ballout, Patrick Zakka, Mostafa Hotait, Karine A. Al Feghali, Ibrahim Abu Gheida, Charbel Saade, Mukbil Hourani, Fady Geara, Malek Tabbal, Pierre Sfeir, Wassim Jalbout, Wael Al-Jaroudi, Abdo Jurjus and Bassem Youssef. Swine Atrioventricular Node Ablation Using Stereotactic Radiosurgery: Methods and In Vivo Feasibility Investigation for Catheter-Free Ablation of Cardiac Arrhythmias. Journal of the American Heart Association. October 27 (2017)

12. H. Mekdash1, B. Shahine1, W. Jalbout, B. Youssef. A simple technique for an accurate shielding of the lungs during total body irradiation. Technical Innovations and Patient Support in Radiation Oncology (TIPSRO), 3-4 (2017) 13-18.

13. Hilal L, Al Feghali KA, Ramia P, Abu Gheida I, Obeid JP, Jalbout W, Youssef B, Geara F, Zeidan YH. Intraoperative Radiation Therapy: A Promising Treatment Modality in Head and Neck Cancer. Front Oncol. 7:148, July 7th, (2017)

14. 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. 7, 407-426, PMC4381265 (2015).

15. 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, 7463-7479, PMC4395760 (2013).

16. Jalbout T W and Spyrou MN. Spectral reconstruction by scatter analysis for a linear accelerator photon beam (full article), Phys. Med. Biol. 51, 2211-2224 (2006)

Posters

1. Jalbout W, Jbara R, Rizk C, Youssef B. On the Risk of Secondary Cancer from Thymoma Radiotherapy. ESTRO 37 annual congress August 2021- Madrid, Spain.

2. L. Hilal, F.B Geara, W. Jalbout, P. Zakka, J. Ballout, M. Hotait, I. Abughaida, K.A. Al Feghali, T.A. Eid, M. Arafat, B.Y. Youssef. Stereotactic Radiosurgery for Atrioventricular Node Ablation in Swine: A Study on Efficacy and Dosimetric Evaluation of Organs at Risk. ASTRO 2018.

3. Lara Hilal, Paul Ramia, Hana Mekdash, Wassim Jalbout, Helena Abdul Khalek, Bilal Shahine, Fady Geara, Youssef Zeidan, Dima Mahmoud, Toufic Eid, Bassem Youssef. A Novel Three Dimensional Conformal Radiation Therapy Technique to Decrease the Mean Parotid Gland Dose in Whole Brain Radiation Therapy. Poster MO_13_2578. ASTRO 2018.

4. K. J. Gallagher, B. Youssef, R. Georges, A. Mahajan, J. A. Feghali, J. Tannous, R. Nabha, Z. Ayoub, W. Jalbout, P. J. Taddei. Predicted reduction in fatal second cancers by proton therapy

of childhood intracranial tumors. ESTRO 37 annual congress 2018- Barcelona, Spain- April 2018.

5. Osman A, Jalbout W. Correction factors for Diode and Diamond detectors in the measurement of small field output factors, using film dosimetry as reference. ESTRO 37 annual congress 2018- Barcelona, Spain- April 2018.

6. Hana Mekdash, Bilal Shahine, Wassim Jalbout, Bassem Youssef, "A simple technique for an accurate shielding of the lungs during total body irradiation," Proceedings of 36th annual meeting of European Society for Radiotherapy & Oncology, Vienna, Austria May 5-9 (2017)

7. Patrick Zakka, Mostafa Hoteit, Karine Al Feghali, Ibrahim Abu Gheida, Phillip Taddei, Charbel Saade, Mukbil Hourani, Fady Geara, Malek Tabbal, Pierre Sfeir, Wassim Jalbout, Wael Al Jaroudi, Abdo Jurjus, Bassem Youssef, Marwan Refaat. Swine atrioventricular node ablation using radiation therapy: methods and in-vivo feasibility investigation for catheter-free ablation of cardiac arrhythmias. Poster presented at the sixth annual AUB Biomedical Research day. February 2016

8. Gallagher K, Tannous J, Nabha R, Feghali J, Ayoub Z, Jalbout W, Youssef B, Taddei P. Replacement computational phantoms to estimate dose in out-of-field organs and tissues, electronic campus poster discussion, 57th Annual Meeting of the American Association of Physicists in Medicine, Anaheim, California, USA. July 2015.

9. Taddei PJ, Youssef B, Khater N, Mahajan A, Howell RM, Jalbout W, Zhang R, Giebeler A, Geara FB, Newhauser WD. Predicted risk of a radiogenic second cancer fatality for 9 children receiving craniospinal irradiation in a developing versus a developed country, poster presentation, 59th Annual Meeting of the Radiation Research Society, New Orleans, LA, USA. September 2013.

10. Taddei PJ, Khater N, Youssef B, Jalbout W, Howell RM, Mahajan A, Zhang R, Mirkovic D, Giebeler A, Geara FB, Newhauser WD. Equivalent Dose in Children Receiving Craniospinal Irradiation with Photons in a Developing Country Or with Protons in a Developed Country, poster presentation, 55th Annual Meeting of the American Association of Physicists in Medicine, Indianapolis, IN, USA. August 2013.

11. W Jalbout, R Howell, W Newhauser, F Geara, N Khater, P Taddei. Out-of-Field dose in craniospinal irradiation, poster presentation, 58th annual meeting of the Canadian Organization of Medical Physicists, Halifax, Nova Scotia, Canada, July 2012.

Abstracts

1. L. Hilal, F.B Geara, W. Jalbout, P. Zakka, J. Ballout, M. Hotait, I. Abughaida, K.A. Al Feghali, T.A. Eid, M. Arafat, B.Y. Youssef. Stereotactic Radiosurgery for Atrioventricular Node Ablation in Swine: A Study on Efficacy and Dosimetric Evaluation of Organs at Risk. ASTRO 2018.

2. Lara Hilal, Paul Ramia, Hana Mekdash, Wassim Jalbout, Helena Abdul Khalek, Bilal Shahine, Fady Geara, Youssef Zeidan, Dima Mahmoud, Toufic Eid, Bassem Youssef. A Novel Three Dimensional Conformal Radiation Therapy Technique to Decrease the Mean Parotid Gland Dose in Whole Brain Radiation Therapy. ASTRO 2018 Book of Abstracts. October 2018.

3. K. J. Gallagher, B. Youssef, R. Georges, A. Mahajan, J. A. Feghali, J. Tannous, R. Nabha, Z. Ayoub, W. Jalbout, P. J. Taddei. Predicted reduction in fatal second cancers by proton therapy of childhood intracranial tumors. ESTRO 37 annual congress 2018- Barcelona, Spain- April 2018.

4. Osman A, Jalbout W. Correction factors for Diode and Diamond detectors in the measurement of small field output factors, using film dosimetry as reference. ESTRO 37 annual congress 2018- Barcelona, Spain- April 2018.

5. H. Mekdash, B. Shahine, W. Jalbout, B. Youssef. A simple technique for an accurate shielding of the lungs during total body irradiation, EP-1752, ESTRO 36, 05-09 May 2017, Vienna Austria

6. Taddei PJ, Tannous J, Nabha R, Feghali JA, Ayoub Z, Jalbout W, Youssef B. Radiation out-of-field dose in the treatment of pediatric central nervous system malignancies, 60th Annual Scientific Meeting of the Canadian Organization of Medical Physicists, Banff, Alberta, Canada. Med. Phys. 41, 27 (2014).

7. Taddei PJ, Youssef B, Khater N, Mahajan A, Howell RM, Jalbout W, Zhang R, Giebeler A, Geara FB, Newhauser WD. Predicted risk of a radiogenic second cancer fatality for 9 children receiving craniospinal irradiation in a developing versus a developed country (abstract), 59th Annual Meeting of the Radiation Research Society, New Orleans, LA, USA. Book of Abstracts, 221 (2013).

8. Taddei PJ, Khater N, Youssef B, Jalbout W, Howell RM, Mahajan A, Zhang R, Mirkovic D, Giebeler A, Geara FB, Newhauser WD. Equivalent Dose in Children Receiving Craniospinal Irradiation with Photons in a Developing Country Or with Protons in a Developed Country (abstract), 55th Annual Meeting of the American Association of Physicists in Medicine, Indianapolis, IN, USA. Med. Phys. 40, 276 (2013).

9. Taddei PJ, Khater N, Youssef B, Geara FB, Howell RH, Jalbout W, Zhang R, Giebeler A, Mirkovic D, Mahajan A, Newhauser WD. Predicted radiogenic cancer risk in 11 children receiving craniospinal irradiation in a developing country versus a developed country, 12th International Conference on Radiation Shielding (abstract), Nara, Japan. Book of Abstracts, 2D-26 (2012).

10. Taddei PJ, Jalbout W, Khater N, Geara FB, Mirkovic D, Howell RM, Zhang R, Giebeler A, Mahajan A, Newhauser WD. Comparison of the risk of second malignant neoplasm in a developed country versus a developing country for a 13-year-old girl receiving craniospinal irradiation (abstract), 2011 Joint AAPM/COMP Meeting, Vancouver, BC, Canada. Med. Phys. 38, 3736 (2011).

Books

1. Jalbout T W co-author, ARASIA Guidelines for the ARASIA Board of Medical Physics, International Atomic Energy Agency, Project ARASIA TC RAS6054 (2010)

2. Jalbout T W co-author, ARASIA Residency for Medical Physicists in Radiation Oncology, International Atomic Energy Agency, Project ARASIA TC RAS6054 (2010)

Presentations

1. Paul Ramia, Farah Ollaik, Lara Hilal, Wassim Jalbout, Wael A. AlJaroudi, Amin Al Ahmad, Pierre Sfeir, Abdo Jurjus, Marwan M. Refaat MD, Bassem Youssef. Stereotactic Radiosurgery for Atrioventricular Node Ablation in Swine: A Study on Efficacy and Dosimetric Evaluation of Organs at Risk. ASTRO November 01, 2018.

2. W. Jalbout, J Abouzahr. Validity of cranial SRS using 5 or 10mm MLC leaf width versus 2.5mm. The 1st International Medical Physics Workshop in Lebanon on Diagnostic Imaging and Radiotherapy. 1-4 December 2018, Hilton Metropolitan Hotel, Beirut-Lebanon

3. W Jalbout, Best Of ASTRO (American Society of Therapeutic Radiation Oncology) meeting, 10-12 December 2015, Sulaimaniya, Kurdistan

4. Taddei PJ, Tannous J, Nabha R, Feghali JA, Ayoub Z, Jalbout W, Youssef B. Radiation out-of-field dose in the treatment of pediatric central nervous system malignancies, oral presentation, 60th Annual Scientific Meeting of the Canadian Organization of Medical Physicists, Banff, Alberta, Canada. July 2014.

5. Taddei PJ, Khater N, Youssef B, Geara FB, Howell RM, Jalbout W, Zhang R, Giebeler A, Mirkovic D, Mahajan A, Newhauser WD. Predicted radiogenic cancer risk in 11 children receiving craniospinal irradiation in a developing country versus a developed country, oral presentation, 12th International Conference on Radiation Shielding, Nara, Japan, September 2012.

6. Taddei PJ, Jalbout W, Khater N, Geara FB, Mirkovic D, Howell RM, Zhang R, Giebeler A, Mahajan A, Newhauser WD. Comparison of the Risk of Second Malignant Neoplasm in a Developed Country Versus a Developing Country for a 13-Year-Old Girl Receiving Craniospinal Irradiation, oral presentation, 53rd Annual Meeting of the American Association of Physicists in Medicine, Vancouver, BC, Canada, August 2011.

7. W Jalbout Scatter analysis for spectral reconstruction of linac photon beam, oral presentation, 47ht Annual meeting of the Annual Meeting of the American Association of Physicists in Medicine, Seattle, Washington, USA, July 2005.

Presentations – Local

1. W Jalbout, Workshop on Hospital Emergency Management of a Chemical or Radiological Incident, Part of the "Clinical Updates in Emergency Medicine" Conference Saturday, December 3, 2016, AUBMC

2. W Jalbout, Modern Radiotherapy. International day of Medical Physics, Rafic Hariri University Hospital, November 2015, Beirut, Lebanon

3. W Jalbout, Modern Radiotherapy. International day of Medical Physics, Rafic Hariri University Hospital, November 2014, Beirut, Lebanon

4. W Jalbout, Radiation Safety in Radiotherapy. Radiation Safety Seminar sponsored by IAEA, Rafic Hariri University Hospital, October 2010, Beirut, Lebanon

5. W Jalbout, An Introduction to Radiotherapy. Department of Radiology Grand Round, the American University of Beirut Medical Center, September 2008, Beirut, Lebanon

6. W Jalbout, An Introduction to Radiotherapy. Department of Pediatrics Grand Round, the American University of Beirut Medical Center, April 2008, Beirut, Lebanon

7. W Jalbout, The Basics of Radiotherapy. Department of Surgery Grand Round, the University of Beirut Medical Center, April 2008, Beirut, Lebanon

8. W Jalbout, An Introduction to Medical Physics. Department of Physics, the American University of Beirut, April 2008, Beirut, Lebanon

9. W Jalbout, An Introduction to Radiotherapy. Department of Nursing, the American University of Beirut, August 2007, Beirut, Lebanon

10. W Jalbout, Radiation Hazards and Precautions with Cs-137 Patients. Department of Nursing, the American University of Beirut, July 1999, Beirut, Lebanon

Grants

Title: Noninvasive Linear Accelerator-Based Stereotactic Radiotherapy for Atrioventricular Node Ablation. Feb 2014
Role: Co-Investigator
Source: THE FAROUK JABRE AWARD AND RESEARCH GRANT
Year: 2014-2017

Title: Targeted spinal fields to improve long-term pediatric radiotherapy outcomes
Role: Co-Investigator
Source: Lebanon National Council for Scientific Research
Year: 2015-2017

Title: Narrowed versus standard spinal fields in craniospinal irradiation: comparative study in sheep and implications on long-term vertebral deformities. Feb 2015
Role: Co-Investigator
Source: MPP RESEARCH GRANT
Year: 2015-2018

C. Teaching

Teaching Activities

2002-Present Medical Physics for Radiation Oncology Medical Residents. An on-going revolving 54 hour/year course offered since 2002, structured following the US American College of Radiology official program.

2016-Present Medical Physics for Radiation Oncology Physics Residents. A structured comprehensive program covering all clinical and technical aspects of Radiotherapy, intended to prepare the resident for independent clinical practice.

2009-Present Medical Physics Clinical Training Program. A two week intensive program offered since 2009 (on demand) to international Medical Physicists as an introduction to modern techniques in Radiation Oncology.

2002 Phys 205: Modern physics for life sciences (3.0 credits). Department of Physics, AUB Faculty of Arts and Sciences, Spring 2002.

Academic Advising

2016- Present	Medical Physics Residency, Program Director American University of Beirut Medical Center
2016	Master Thesis Advisor for Medical Physics Student, Commissioning of 160 leaf MLC for Stereotactic Radiosurgery Program American University of Beirut Medical Center
2017	Master Thesis Advisor for Medical Physics Student, The effect of breathing on dose distribution in breast treatment using field-in-field technique American University of Beirut Medical Center
2018	Master Thesis Advisor for Medical Physics Student, Cranial SRS feasibility with 5 and 10mm leaf width MLC American University of Beirut Medical Center
2019	Master Thesis Advisor for Medical Physics Student, Risk of Secondary Cancer from Thymoma Radiotherapy
2020	Master Thesis Advisor for Medical Physics Student, Dosimetric Comparison of Electron vs Wide Tangents Techniques in the Treatment of Left Breast Intramammary Lymph Nodes

Workshops and Seminars

June 2013	W Jalbout, Regional Training Course on High Dose Rate Brachytherapy, International Atomic Energy Agency, 20 to 24 June 2013, Doha, Qatar
December 2012	W Jalbout, Regional Training Course on the Calibration of External Beam Radiotherapy Equipment, International Atomic Energy Agency, 13 to 16 December 2012, Doha, Qatar
March 2012	W Jalbout, Regional Training Course on Medical Physics aspects of high and low dose rate brachytherapy, International Atomic Energy Agency, February 25 to 1 March 2012, Riyadh, KSA
October 2011	W Jalbout, Regional Training Course on Radiotherapy Techniques with Emphasis on Imaging and Treatment Planning, International Atomic Energy Agency, October 2011, Riyadh, KSA

Professional Societies Membership

2016-Present	Member Partners in Physics Subcommittee (AAPM)
1995-Present	Full Member American Association of Physicists in Medicine (AAPM)

1994 - 1995 Student Member
American Association of Physicists in Medicine (AAPM)