

**JULIUS V TURIAN, PhD.**

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**PERSONAL INFORMATION**

Citizenship: USA

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**EDUCATION (include years attended, name of school, and degrees granted)**

- Graduate or Professional  
2002-2004  
RUSH UNIVERSITY, CHICAGO IL, USA  
*PHD. Medical Physics 2004*
- Graduate or Professional  
1998-2002  
RUSH UNIVERSITY, CHICAGO IL, USA  
*M.S. Medical Physics 2002*
- Postgraduate  
None

**ACADEMIC APPOINTMENTS**

- 2016-present** Associate Professor of Radiation Oncology and Medical Physics; Rush University Medical College, Chicago, IL
- 2008-2016** Assistant Professor of Medical Physics; Rush University Medical College, Chicago, IL
- 2000-2005** Clinical Instructor of Medical Physics, University of Illinois at Chicago, College of Medicine, Department of Hematology/Oncology, Chicago, IL.

**EMPLOYMENT**

- 2016-present** Chief of Medical Physics, Rush University Medical Center, Department of Radiation Oncology, Chicago, IL.
- 2012-2016** Director of Clinical Medical Physics, Rush University Medical Center, Department of Radiation Oncology, Chicago, IL.
- 2008-2012** Senior Medical Physicist, Rush University Medical Center, Department of Radiation Oncology, Chicago, IL.
- 2005-2008** Staff Medical Physicist, Rush University Medical Center, Department of Radiation Oncology, Chicago, IL.
- 2004-2005** Director of Medical Physics, Promedica Health System, Sylvania, OH.
- 1997-2004** Medical Physicist, Department of Radiation Oncology,

University of Illinois Medical Center, Chicago, IL.  
**1993-1997** Junior Medical Physicist, Department of Radiation and Cellular Oncology,  
University of Chicago, Chicago, IL.

**CERTIFICATION AND LICENSURE**

1997 Board Certification in Medical Physics by American Board of Medical Physics.  
2005-2015 American Board of Radiology; Maintenance of Certification Program  
State of Illinois: Therapeutic Radiology Physicist Certification

**HONORS AND AWARDS**

Resident Teaching Award 2006: Radiation Oncology, Rush University Medical Center  
Rush University Medical Center; WOW Award 2007  
American Board of Radiology; Outstanding Volunteer Award 2012

**SOCIETY MEMBERSHIPS**

AAPM; American Association of Physicists in Medicine  
ASTRO; American Society of Therapeutic Radiology and Oncology  
MWAAPM; Midwest Chapter of AAPM

**COMMUNITY SERVICE**

American Board of Radiology: Maintenance of Certification Committee, member since 2009.  
American Board of Radiology Oral Examiner; member since 2012.  
American Board of Radiology Initial Certification Therapy Committee; member since 2012.  
AAPM Midwest Chapter: Meeting organizer 2010

**COMMITTEE AND ADMINISTRATIVE SERVICES**

**Departmental**

**Chief of Medical Physics**

**Co-chair** Rush University Medical Center, Department of Radiation Oncology, Quality Assurance Committee

**Member** Rush University Medical Center, Department of Radiation Oncology: Medical Residency Review Committee

**Associate Director:** Rush University Medical Center, Department of Radiation Oncology, Medical Physics Residency Program

**Lead Physicist:** Rush-Radiosurgery LLC

**SCIENTIFIC AND SCHOLARLY ACTIVITIES**

**Membership or Offices in Professional Societies (terms)**

AAPM member since 1994

ASTRO member since 2008

**Reviewer for Professional Journals**

Associate Editor and Reviewer: *Medical Physics Journal*

Reviewer: *Journal of Applied Clinical Medical Physics, Medical Physics Journal,*

*The International Journal of Radiation Oncology Biology and Physics, Medical Dosimetry.*

*PLOS ONE*

AAPM annual meeting abstract reviewer

☐ **Oral Presentations at Regional, National, and International Meetings**

1. **J. Turian**, “Monte-Carlo Methods in Medical Physics”, Summer School: Physics; Modern Applications, University of Cluj-Napoca, Romania, June 21, 2003.
2. **J. Turian**, “Best IMRT Treatment Planning System Eclipse-Varian Medical System, Professional debate”, New and Future Developments in Radiotherapy, San Diego, CA, November 12-14, 2004.
3. **J. Turian**, “EPID dosimetry”, New and Future Developments in Radiotherapy, San Diego CA, November 12-14, 2004.
4. **J. Turian**, “IMRT – Head and Neck”, New and Future Developments in Radiotherapy, San Diego, CA, November 12-14, 2004.
5. **J. Turian**, “Treatment Planning: Calculations and Problem Solving”, Chicago Area Radiation Therapists Meeting, CART, Chicago, IL, March 31, 2007
6. **J. Turian**, “Treatment Planning: Calculations and Problem Solving”, Chicago Area Radiation Therapists Meeting, CART, Chicago, IL, April 26, 2008

☐ **Invited Seminars and Lectures**

1. **J. Turian**, “EPID dosimetry”, University of Michigan Department of Medical Physics, Ann Arbor, MI, June 13, 2005
2. **J. Turian**, “Establishing a SRS-SBRT program using TrueBeam STX system”, Stanford University, Stanford, CA, August 9, 2013
3. **J. Turian**, “SRS-SBRT program using TrueBeam STX system”, University of Arizona, Tucson, AZ, October 17, 2014

**BIBLIOGRAPHY**

☐ **Original full-length manuscripts (published, in press, or submitted)**

1. Barrett D. Milliken, **Julius V. Turian**, Russell J. Hamilton, Steven J. Rubin, Franca T. Kuchnir, Cedric X. Yu and John W. Wong, "Verification of the omni wedge technique" Med. Phys. 25(8), 1419-23 (1998).
2. Jonathan G. Li, Lei Xing, Arthur L. Boyer, Russell J. Hamilton, Dan R. Spelbring, and **Julius V. Turian**, "Matching photon and electron fields with dynamic intensity modulation" Med. Phys. 26 (11), 2379-84 (1999).
3. J. Kao, **J. Turian**, A. Meyers, R. J. Hamilton, B. Smith, S. Vijayakumar, and A. B. Jani, "Sparing of the penile bulb and proximal penile structures with intensity-modulated radiation therapy for prostate cancer" Br J Radiol, 77, 129-136 (2004).
4. **J. Turian**, B. Smith, D. Bernard, K. Griem, and J. Chu, "Monte Carlo calculations of output factors for clinically shaped electron fields", J. Appl. Clin. Med. Phys. 5(2) 42-63, (2004).
5. A. P. Shah, A. Dickler, M. C. Kirk, S. S. Chen, J. B. Strauss, A. B. Coon, **J. V. Turian**, K. Dowlat, K. Siziopikou, K. L. Griem, "Case report and dosimetric analysis of an axillary recurrence after partial breast irradiation with Mammosite catheter", Med. Dos. 33(3) 222-225, 2008.
6. J. B. Strauss, M. C. Kirk, S. S. Chen, A. P. Shah, J. C. Chu, **J. V. Turian**, A. B. Coon, A. Dickler, “A Virtual Three-Field Matching Technique for Breast Irradiation Using 3-D Planning”, Physica Medica, 2009; 25(4): 212-215.

7. Benjamin T. Gielda, Cheryl H. Millunchick, Joseph P. Smart, James C. Marsh **Julius V. Turian**, Joy L Coleman.” Helical tomotherapy and larynx sparing in advanced oropharyngeal carcinoma: a dosimetric study”. Medical Dosimetry, Available on line 17 July 2009.
8. Alan B Coon, Adam Dickler, Michael C. Kirk, Yixiang Liao, Anand P. Shah, Jonathan B Strauss, Sea Chen , **Julius Turian**, Katherine L. Griem. “Tomotherapy and Multifield Intensity-Modulated Radiotherapy Planning Reduce Cardiac Doses in Left-Sided Breast Cancer Patients with Unfavorable Cardiac Anatomy”. Int. J. Radiation Oncology Biol. Phys., 2010 Sep 1;78(1):104-10.
9. Yang C. Cai, Yuanyuan Ge, Damian Bernard, **Julius Turian**, James C. H. Chu, Detection of electron beam energy variations using a computed radiography system. Journal of Applied Clinical Medical Physics, 2009; 10(4): 142-150.
10. James C. Marsh, Arnold M. Herskovic, Benjamin T. Gielda, Frank F. Hughes, Thomas Hoepfner, **Julius Turian**, Ross Abrams. Intracranial Metastatic Disease Sparing the Limbic Circuit and Pituitary – Therapeutic Implications: A Review of 697 Metastatic Lesions in 107 Patients. Int. J. Radiation Oncology Biol. Phys., 2010; 76(2) pp. 504-512.
11. James C. Marsh, Rohit H. Godbole, Arnold M. Herskovic, Benjamin T. Gielda, **Julius V. Turian**. Sparing of the Neural Stem Cell Compartment during Whole-Brain Radiation Therapy: A Dosimetric Study Using Helical Tomotherapy. Int. J. Radiation Oncology Biol. Phys., Available on line 14 May 2010.
12. Vinai Gondi, Wolfgang A. Tome, James Marsh, Aaron Struck, Amol Ghia, **Julius V. Turian**, Soren M. Bentzen, John S. Kuo, Deepak Khuntia, Minesh P. Mehta. “Estimated risk of perihippocampal disease progression after hippocampal avoidance during whole-brain radiotherapy: Safety profile for RTOG 0933”. Radiotherapy & Oncology, 2010; 95(3) pp. 327-331.
13. James C. Marsh, Shalini Garg, Julie A. Wendt, Benjamin T. Gielda, **Julius V. Turian**, Arnold M. Herskovic. Intracranial metastatic disease rarely involves the pituitary: retrospective analysis of 935 metastases in 155 patients and review of literature. Pituitary. 2010 Sep;13(3):260-5.
14. Gielda BT, Strauss JB, Marsh JC, **Turian JV**, Griem KL. A dosimetric comparison between the supine and prone positions for three-field intact breast radiotherapy. Am J Clin Oncol. 2011 Jun;34(3):223-30.
15. Jiang L, Templeton A, **Turian J**, Kirk M, Zusag T, Chu JC. Comparison of computed tomography scout based reference point localization to conventional film and axial computed tomography. Med Dosim. 2011 Winter;36(4):410-5. Epub 2011 Mar 11.
16. Marsh JC, Godbole R, Diaz AZ, Gielda BT, **Turian JV**. Sparing of the hippocampus, limbic circuit and neural stem cell compartment during partial brain radiotherapy for glioma: a dosimetric feasibility study”. J Med Imaging Radiat Oncol. 2011 Aug, 55(4):442-49.
17. Khelasvilli G, Chu J, Diaz A, **Turian J**. Dosimetric characteristics of the small diameter BrainLab™ cones used for stereotactic radiosurgery. J Appl Clin Med Phys. 2012 Jan 5;13(1):3610.
18. Yao R, Bernard D, **Turian J**, Abrams RA, Sensakovic W, Fung HC, Chu JC. A simplified technique for delivering total body irradiation (TBI) with improved dose homogeneity. Med Phys. 2012 Apr;39(4):2239-48.

19. Marsh JC, Ziel GE, Diaz AZ, Wendt JA, Gobole R, **Turian JV**. Integral dose delivered to normal brain with conventional intensity-modulated radiotherapy (IMRT) and helical tomotherapy IMRT during partial brain radiotherapy for high-grade gliomas with and without selective sparing of the hippocampus, limbic circuit and neural stem cell compartment. *J Med Imaging Radiat Oncol*. 2013 Jun;57(3):378-83.
20. Garg S, Giolda BT, **Turian JV**, Liptay M, Warren WH, Bonomi P, Sher DJ. Patterns of regional failure in stage III non-small cell lung cancer treated with neoadjuvant chemoradiation therapy and resection. *Pract Radiat Oncol*. 2013 Oct-Dec;3(4):287-93.
21. Dandekar V, Morgan T, **Turian J**, Fidler MJ, Showel J, Nielsen T, Coleman J, Diaz A, Sher DJ. Patterns-of-failure after helical tomotherapy-based chemoradiotherapy for head and neck cancer: implications for CTV margin, elective nodal dose and bilateral parotid sparing. *Oral Oncol*. 2014 May;50(5):520-6.
22. Yao R, Templeton AK, Liao Y, **Turian JV**, Kiel KD, Chu JC. Optimization for high-dose-rate brachytherapy of cervical cancer with adaptive simulated annealing and gradient descent. *Brachytherapy*. 2014 Jul-Aug;13(4):352-60.
23. Garg S, Giolda BT, Kiel K, **Turian JV**, Fidler MJ, Batus M, Bonomi P, Sher DJ. Patterns of locoregional failure in stage III non-small cell lung cancer treated with definitive chemoradiation therapy. *Pract Radiat Oncol*. 2014 Sept-Oct;4(5):342-8.
24. Templeton AK, Chu JC, **Turian JV**. The Sensitivity of ArcCHECK-based gamma analysis to manufactured errors in helical tomotherapy radiation delivery. *J Appl Clin Med Phys*. 2015 Jan 8;16(1):4814.

#### □ Peer-Reviewed Abstracts

##### SELECTED ABSTRACTS (LAST 5 YEARS):

1. L Jiang, **J Turian**, M Kirk, T Zusag, and J Chu. Using CT Surview Images for Fletcher-Suit Brachytherapy Treatment Planning”, *Med. Phys.* 35 2736 (2008).
2. R Yao, J Chu, Y Liao, M. Kirk, **J Turian**, and T Zusag. “Optimal Dose Grid Sampling Resolution for HDR Interstitial Brachytherapy Planning”. *Med. Phys.*s 35 2730 (2008).
3. Y Liao, M. Kirk, **J Turian**, D Bernard, T Zusag, and J Chu. “Comparison of Rush University In-House Dose Optimizer and Nucletron IPSA”. *Med. Phys* 35 2836 (2008).
4. **J Turian**, S Chen, J Coleman, G Khelashvili, and J Chu. “Dose Summation for Multi-Phase Helical Tomotherapy Plans”. *Med. Phys.* 35 2838 (2008).
5. B. T. Giolda, C. Miller, **J. V. Turian**, J. L. Coleman. “Helical Tomotherapy and Larynx Sparing in Advanced Oropharyngeal Carcinoma”. *International Journal of Radiation Oncology Biology and Physics* 72(1):S408-409 (2008).
6. J.C. Marsh, B.T. Giolda, A.M. Herskovic, **J.V. Turian** Sparing of the Limbic Circuit and Pituitary during Whole Brain Radiation Therapy: A Dosimetric Study using Helical Tomotherapy *International Journal of Radiation Oncology Biology and Physics* 1 November 2009 volume 75 issue 3 Pages S252-S253
7. W.A. Porter, J.C. Marsh, A. Herskovic, B.T. Giolda, J. Smart, **J.V. Turian** Why Do Intracranial Metastases Spare the Limbic Circuit? A Volumetric Analysis *International Journal of Radiation Oncology Biology and Physics* 1 November 2009 volume 75 issue 3 Page S243

8. V. Gondi, W.A. Tome, J. Marsh, A. Struck, A. Ghia, **J.V. Turian**, S.M. Bentzen, J.S. Kuo, D. Khuntia, M.P. Mehta Estimated Risk of Perihippocampal Disease Progression after Hippocampal Avoidance during Whole-brain Radiotherapy: Comprehensive Multi-institution Review of 371 Patients with 1133 Brain Metastases *International Journal of Radiation Oncology Biology and Physics* 1 November 2009 volume 75 issue 3 Page S236
9. R Yao, A Templeton, J Chu, Y Liao, and **J Turian**, Comparison of Optimized Interstitial HDR Brachytherapy Plans Using Adaptive Simulated Annealing Algorithm and Physical, Biological and Hybrid Cost Functions *Med. Phys.* 36, 2534 (2009)
10. J Zhou, P Zhang, **J Turian**, and J Chu, A Feasibility Study for Real-Time Tomosynthesis-Guided Rapid Arc Therapy *Med. Phys.* 36, 2494 (2009)
11. S. Garg, **J. Turian**, Y. Liao, B. Gielda, K. Griem The Impact of 4D Respiratory Tracking CT Simulation on Target, Lung, and Cardiac Dose in Post-mastectomy Chest Wall Irradiation *International Journal of Radiation Oncology Biology and Physics* 1 November 2010 volume 78 issue 3 Page S231
12. Y Liao, **J Turian**, J Zhou, A Templeton, and J Chu, The Optimal Frame Rate for Cine EPID Images, *Med. Phys.* 37, 3159 (2010)
13. R Yao, A Templeton, J Chu, Y Liao, **J Turian**, B Gielda, and T Zusag, PET/CT Guided Dose Redistribution for HDR Interstitial Brachytherapy of Cervical Cancer *Med. Phys.* 37, 3390 (2010)
14. G Khelashvili, **J Turian**, and J Chu, Dosimetric Characteristics of the Small Diameter BrainLab Cones for Stereotactic Radiosurgery *Med. Phys.* 37, 3306 (2010)
15. M Yeginer, B Aydogan, B Smith, **J Turian**, and G Kim, Simultaneous Integrated Boost Radiotherapy Using Volumetric Modulated Arc Therapy (RapidArc) in the Treatment of Head&Neck Cancer: A Dosi metric Comparison with Helical TomoTherapy and Intensity Modulated Radiotherapy *Med. Phys.* 37, 3208 (2010)
16. J Zhou, **J Turian**, E Lee, A Templeton, Y Liao, and J Chu, A Novel Approach to Tracking Intrafraction Prostate Motion during Volumetric Modulated Arc Therapy with Tomosynthesis *Med. Phys.* 37, 3386 (2010)
17. E. Ziel, G. Khelashvili, K.D. Kiel, **J. Turian** IMRT for NSCLC Patients using Radiobiological Parameters for Planning and Evaluation *International Journal of Radiation Oncology Biology and Physics* 1 October 2011 volume 81 issue 2 Pages S794-S795
18. **J Turian**, Y Liao, D Bernard, and J Chu , Are We Ready for Biological Planning? A Dosimetric Study *Med. Phys.* 38, 3641 (2011)
19. Y Liao, **J Turian**, and J Chu, EPID Assisted Dosimetric Evaluation of Treatment Planning Using Helical or 4D CT in Stereotactic Radiotherapy of Lung Cancer *Med. Phys.* 38, 3620 (2011)
20. G Khelashvili, J Chu, D Bernard, A Diaz, and **J Turian**, SRS Diode and Diamond Detector Signal Response Correction Factors in Small Diameter Stereotactic Radiosurgery Fields *Med. Phys.* 38, 3612 (2011)
21. R Yao, D Bernard, J Chu, and **J Turian**, A Method to Estimate Lung Doses under a Block during Total Body Irradiation (TBI) Treatment, *Med. Phys.* 38, 3633 (2011)

22. R Yao, A Templeton, J Chu, Y Liao, and **J Turian**, HDR Brachytherapy for Cervical Cancer Using an Adaptive Simulated Annealing Optimization Algorithm with Physical Dose and GEUD Cost Functions *Med. Phys.* 38, 3637 (2011)
23. E. Ziel, A. Diaz, J.C. Marsh, J.A. Wendt, R. Godbole, J.V. Turian Integral Dose Delivered to Normal Brain With Conventional IMRT and Helical Tomotherapy IMRT During Partial Brain Radiation Therapy for High-Grade Gliomas With and Without Selective Sparing of the Hippocampus, Limbic Circuit, and Neural Stem Cell Compartment *International Journal of Radiation Oncology Biology and Physics* 1 November 2012 volume 84 issue 3 Pages S754-S755
24. S. Garg, B.T. Gielda, **J. Turian**, M. Liptay, W.H. Warren, P. Bonomi, D.J. Sher Patterns of Regional Failure in Stage III Non-small Cell Lung Cancer Managed With Neoadjuvant Chemoradiation Therapy and Resection *International Journal of Radiation Oncology Biology and Physics* 1 November 2012 volume 84 issue 3 Page S580
25. A Templeton, J Chu, and **J Turian**, Isocenter Measurements with the Winston-Lutz Test: Impact on Treatment Planning *Med. Phys.* 39, 3733 (2012)
26. Y Liao, V Dandekar, J Chu, **J Turian**, and K Kiel Evaluation of Inverse Optimization in Brachytherapy for Locally Advanced Cervix Cancer, *Med. Phys.* 39, 3803 (2012)
27. R Yao, Y Liao, K Kiel, A Templeton, **J Turian**, and J Chu, Comparison of HDR Brachytherapy for Cervix Cancer Using an Adaptive Simulated Annealing Program and Oncentra for Simultaneously Integrated Boost *Med. Phys.* 39, 3802 (2012)
28. WF Sensakovic, S Wang, R Yao, **J Turian**, and J Chu, Feasibility Study of Backscatter Imaging for Image-Guided Radiotherapy *Med. Phys.* 39, 3667 (2012)
29. A Templeton, W Sensakovic, J Chu, and **J Turian**, Helical Tomotherapy DQA with ArcCHECK: Sensitivity to Possible Delivery Errors *Med. Phys.* 39, 3718 (2012)
30. Rui Yao, Damian Bernard, **Julius Turian**, Ross A. Abrams, William Sensakovic, Henry C. Fung, and James C. H. Chu, A simplified technique for delivering total body irradiation (TBI) with improved dose homogeneity *Med. Phys.* 39, 2239 (2012)
31. W. Shi, H. Liu, M. Studenski, L. Fu, C. Peng, V. Gunn, S. Rudoler, C. Farrell, D. Andrews, J Chu and **J Turian**. Dosimetric comparison of spine SBRT techniques: A study based on RPC spine phantom. *Neuro Oncology* 2012 October; 14(Supl 6): vi131-vi133.