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CURRICULUM VITAE

Natalya V. Morrow PhD

Associate Professor
Department of Radiation Oncology
Chief Therapeutic Medical Physicist at Zablocki VA Medical Center

OFFICE ADDRESS:
8850 William Coffey Drive

Milwaukee, WI 53226

EDUCATION:
09/2000 - 05/2006 PhD (Physics), University of Michigan, Ann Arbor, MI
- 05/2000 Bachelor of Science in Physics, Eastern Michigan University, Ypsilanti, MI

POSTGRADUATE TRAINING AND FELLOWSHIP APPOINTMENTS:
01/2006 - 06/2008 Post-doctoral Fellow, Radiation Oncology, Medical Physics, Medical College of Wisconsin, 8701 Watertown Plank Road, Milwaukee, WI 53226

FACULTY APPOINTMENTS:
01/2018 - 06/30/2025 Assistant Professor, Radiation Oncology, Medical Physics, Medical College of Wisconsin, 8701 Watertown Plank Road, Milwaukee, WI 53226
07/01/2025 - Present Associate Professor, Radiation Oncology, Medical Physics, Medical College of Wisconsin, 8701 Watertown Plank Road, Milwaukee, WI 53226

HOSPITAL AND CLINICAL ADMINISTRATIVE APPOINTMENTS:
07/2008 - 12/2017 Medical Physicist, Department of Radiation Oncology, Froedtert Hospital, Milwaukee, WI
07/2008 - 03/2018 Therapeutic Medical Physicist, Radiation Oncology, Medicine, Clement J. Zablocki VA Medical Center, Milwaukee, WI
04/2015 - Present Chief Therapeutic Medical Physicist, Department of Radiation Oncology, Medicine, Clement J. Zablocki VA Medical Center, Milwaukee, WI

SPECIALTY BOARDS AND CERTIFICATION:

Board Certified	Issue Date	Expiration
American Board of Radiology	06/2010	None

MEMBERSHIPS IN HONORARY AND PROFESSIONAL SOCIETIES:
05/1999 - Present Sigma Pi Sigma (National Honor Physics Society)
01/01/2007 - Present American Society for Radiation Oncology (full member)
01/01/2007 - Present American Association of Physicist in Medicine (full memeber)
01/01/2009 - Present American Brachytherapy Society (full member)

NATIONAL ELECTED/APPOINTED LEADERSHIP AND COMMITTEE POSITIONS:
10/28/2020 - 12/31/2022 Member, RIRAS Workgroup, National Radiation Oncology Program, Veterans Health Administration
12/07/2022 - 12/31/2025 Member, Working Group on Targeted Career Learning Resources, American Association of Physicists in Medicine
01/01/2023 - Present Member, Standards, Quality and Safety Committee, American Brachytherapy Society
04/21/2023 - Present Member, Electron SOP workgroup, National Radiation Oncology Program, Veterans

Health Administration

10/01/2023 - 09/30/2025 Member, Radiation Oncology Field Advisory Board, Department of Veterans Affairs Veterans Health Administration

2024 - Present member, Educational Council, American Brachytherapy Society

PEER REVIEWED WORKSHOPS/PRESENTATIONS:

National

N. V. Morrow, A. Tai, G.-P. Chen, X.A. Li, Implementation of Good Laboratory Practice standards for improving dosimetry in Radiobiology lab, AAPM annual meeting (poster), 2006

N.V. Morrow, A. Tai, G.-P. Chen, X.A. Li, Improvement of dosimetry and quality assurance in radiobiology laboratory, RRS annual meeting (poster), 2006

N.V. Morrow, V.A. Semenenko, X.A. Li, In-vivo dose verification and beam flattening in radiobiology laboratory, RRS annual meeting (poster), 2007

N.V. Morrow, B.A. Erickson-Wittmann, C.A. Lawton, X.A. Li, Determining Margins for Organs at Risk to Account for Anatomic Motion, ASTRO annual meeting (poster), 2007

N.V. Morrow, J. White, X. A. Li, Soft tissue based patient set-up: application of IGRT to breast cancer treatment, ASTRO annual meeting (poster), 2008

N.V. Morrow, C.A. Lawton, X. A. Li, Intra-fractional variation and IGRT based CTV margins: MVision, CTVision and Hi-Art Tomotherapy, AAPM annual meeting (oral), 2008

N. V. Morrow, D. E. Prah, J. R. White, H. Shukla, S. Bose, X. A. Li, A six-degree Online Correction Technique to Account for Interfractional Variations in Breast Irradiation, ASTRO annual meeting (moderated poster), 2009

N.V. Morrow, J. Robbins, E. Ahunbay, J. White, X. A. Li, Interfractional Geometric and Dosimetric Variations in Prone Breast Irradiation, AAPM annual meeting (poster), 2009

N.V. Morrow, J. Robbins, E. Ahunbay, J.White, X.A. Li, Interfractional breast shape variation and dosimetric consequences in whole breast irradiation, AAPM annual meeting (poster), 2010

N.V. Morrow, M.S. Carver, J.White, X.A. Li, Interfractional Variations in Partial Breast Irradiation: Prone Vs Supine, AAPM annual meeting (oral), 2011

N.V. Morrow, C. Lawton, S. Qi, X.A. Li, Impact of Daily Image Quality on Image Guided Radiotherapy for Prostate Cancer, ASTRO annual meeting (oral), 2011

N. V. Morrow, E. E. Ahunbay, J. J. Rownd, X. Li, B. Erickson, Cumulative Dose with Organ Deformation for Cervical Cancer Treated with Multi-fraction High Dose Rate Brachytherapy, ASTRO annual meeting (poster), 2012

N. V. Morrow, E.E. Ahunbay, A. Currey, X. A. Li, Dosimetric Impact of Interfractional Anatomy Changes On Breast Radiotherapy Based On Accumulative Dose: IMRT Versus 3DCRT, AAPM annual meeting (poster), 2013

COMMITTEE SERVICE:

Medical College of Wisconsin

07/2020 - 06/2023 Department Representative (Alternate), Faculty Council, Medical College of Wisconsin

11/2022 - 08/2023 Co-Leader, Community Engagement Mission, Vision to Sight 2.0, Radiation Oncology, Medical College of Wisconsin

07/2023 - Present Department Representative, Faculty Council, Medical College of Wisconsin

Hospital

04/2015 - Present Member, Radiation Oncology Department Operations Committee, Medicine, Radiation Oncology, Zablocki VA Medical Center

04/2015 - Present Chair, Patient Safety and Quality Improvement Committee, Medicine, Radiation Oncology, Zablocki VA Medical Center

04/2015 - Present Member, Radiation Safety Committee, Zablocki VA Medical Center

01/2019 - Present Member, Services and Technology Implementation and Review Committee, Radiation Oncology, Medical College of Wisconsin

MCW TEACHING ACTIVITIES:

Resident and Fellow Education

01/2015 - Present Didactic lectures for Medical and Physics residency programs

EXTRAMURAL TEACHING:

Resident and Fellow Education

07/2011 - Present Preceptor, Radiation Oncology Medical Physics Residency Brachytherapy Rotation

04/2015 - Present Zablocki VA Medical Center, Physics educational support as part of weekly chart rounds

09/2015 - 12/2019 RadOncQuestions, Physics Editor

Community/Lay Public

09/2009 - 12/2016 University of Wisconsin - LaCrosse, Radiation Therapy Physics (RT431), Radiation Therapy Program, Milwaukee, WI

03/22/2023 - Present High School For Health Sciences, Medical Physicist Pathway (annual outreach to engage in early career awareness)

PROGRAMMATIC DEVELOPMENTS:

Educational Programs

Resident

06/2010 - Present Development of Specialty Procedure (Brachytherapy) rotation curriculum for CAMPEP accredited Medical Physics residency. Medical College of Wisconsin.

Research Programs

04/2015 - Present Lead Physicist, Zablocki VA Medical Center Affiliate Membership of NRG Oncology

Clinical Programs

03/2015 - Present Patient Safety and Quality Improvement Program, Zablocki VA Medical Center Radiation Oncology

08/2015 - 12/2023 Justification, Design, and Construction of new Radiation Oncology Facility at Zablocki VA Medical center.

08/2015 - 09/2015 Vision and Guidance of technological investment path; justification of High Tech High Cost equipment purchase to Zablocki Medical Center administration.

03/2020 - 12/2020 COVID three tier staff management plan development with an educational component to reduce department community transmission and to provide uninterrupted Radiation Oncology service at ZVAMC.

04/2021 - 08/2021 Management of Activation Funding (1.1 million) to modernize axillary equipment in the new Radiation Oncology Facility at Zablocki VA Medical Center.

06/2022 - 12/2023 Management of commissioning of High Cost High Tech equipment (2 linear accelerators, 1 CT simulator)

06/2022 - Present Development of Intracranial Stereotactic RadioSurgery Program at Zablocki VA Medical Center

COMMUNITY SERVICE ACTIVITIES:

09/2021 - Present Parent Advisory Board at Kettle Moraine Middle School, Kettle Moraine School District

09/01/2022 - 06/08/2023 Parent Advisory Board, High School for Health Sciences, Kettle Moraine School District

04/26/2023 - Present Budget Advisory Council, Kettle Moraine School District

09/01/2024 - Present Governance Council, High School For Health Sciences, Kettle Moraine School District

DEPARTMENT ACCREDITATION AND QUALITY IMPROVEMENT:

01/2018 - 10/2018 American College of Radiology, Zablocki VA Medical Center Department of Radiation Oncology - Physics Project Lead

10/2019 - 07/2020 Faculty Scholars in Patient Safety & Quality Improvement. Project "Improvement of plan

QA and documentation efficiency in Brachytherapy". Medical College of Wisconsin.

11/2021 - Present Accreditation Program of Excellence (APEx) by ASTRO, Zablocki VA Medical Center Department of Radiation Oncology - Department Lead

STAFF AND FACULTY WELLNESS PROJECTS:

05/2018 - Present Annual Physics Staff and Faculty Engagement activity committee (Chair). Medical College of Wisconsin, Department of Radiation Oncology Physics section.

01/2021 - Present Staff engagement board, Zablocki VA Medical Center Department of Radiation Oncology

INVITED MEDIA APPEARANCES:

National

J Huang, A Klopp, N Morrow, Episode 2: Role of Visualization in Brachytherapy, Brachytherapy Good Catch Podcast Series

BIBLIOGRAPHY

Refereed Journal Publications/Original Papers

1. Dutta SK, Morrow NV, Raithel G. Enhancement of Sisyphus cooling using a bichromatic standing wave Physical Review A - Atomic, Molecular, and Optical Physics, 2000, 62(3), pp. 035401–035401
2. Morrow NV, Dutta SK, Raithel G. Feedback control of atomic motion in an optical lattice. Phys Rev Lett. 2002 Mar 04;88(9):093003.
3. Feldbaum D, Morrow NV, Dutta SK, Raithel G. Coulomb expansion of laser-excited ion plasmas. Phys Rev Lett. 2002 Oct 21;89(17):173004.
4. Guest JR, Teo BK, Morrow NV, Raithel G. Magnetic behavior of atoms in gray optical lattices Journal of the Optical Society of America B: Optical Physics. May 2003;20(5):942-952.
5. Morrow NV, Raithel G. Atom interference in a gray optical lattice Physical Review A - Atomic, Molecular, and Optical Physics. November 2004;70(5 A).
6. Morrow NV, Raithel G. Wavepacket interference in an optical lattice Laser Physics. January 2005;15(1):74-81.
7. Zhang R, Morrow NV, Berman PR, Raithel G. Laser cooling in an optical lattice that employs Raman transitions Physical Review A - Atomic, Molecular, and Optical Physics. October 2005;72(4).
8. Zhang R, Sapiro RE, Morrow NV, Raithel G. Transition of laser cooling between standard and Raman optical lattices Physical Review A - Atomic, Molecular, and Optical Physics. 2006;74(3).
9. Zhang R, Morrow NV, Sapiro RE, Berman PR, Raithel G. Analysis of atomic density distributions in optical lattices using an optical mask Optics Communications. 15 July 2007;275(2):311-317.
10. Morrow NV, Dutta SK, Raithel G. Effects of static and random magnetic fields on atoms in a gray optical lattice Laser Physics. July 2007;17(7):948-955.
11. Morrow NV, Stepaniak C, White J, Wilson JF, Li XA. Intra- and interfractional variations for prone breast irradiation: an indication for image-guided radiotherapy. Int J Radiat Oncol Biol Phys. 2007 Nov 01;69(3):910-7.
12. Zhang R, Sapiro RE, Morrow NV, Mhaskar RR, Raithel G. Bose-Einstein condensate inside a Bragg-reflecting atom cavity Physical Review A - Atomic, Molecular, and Optical Physics. 17 June 2008;77(6).
13. Zhang R, Ghosh SN, Zhu D, North PE, Fish BL, Morrow NV, Lowry T, Nanchal R, Jacobs ER, Moulder JE, Medhora M. Structural and functional alterations in the rat lung following whole thoracic irradiation with moderate doses: injury and recovery. Int J Radiat Biol. 2008 Jun;84(6):487-97. PMCID: PMC2435093
14. Semenenko VA, Molthen RC, Li C, Morrow NV, Li R, Ghosh SN, Medhora MM, Li XA. Irradiation of varying volumes of rat lung to same mean lung dose: a little to a lot or a lot to a little? Int J Radiat Oncol Biol Phys. 2008 Jul 01;71(3):838-47.
15. Szabo S, Ghosh SN, Fish BL, Bodiga S, Tomic R, Kumar G, Morrow NV, Moulder JE, Jacobs ER, Medhora M. Cellular inflammatory infiltrate in pneumonitis induced by a single moderate dose of thoracic x radiation in rats. Radiat Res. 2010 Apr;173(4):545-56. PMCID: PMC2904484
16. Jourdan MM, Lopez A, Olasz EB, Duncan NE, Demara M, Kittipongdaja W, Fish BL, Mäder M, Schock A, Morrow NV, Semenenko VA, Baker JE, Moulder JE, Lazarova Z. Laminin 332 deposition is diminished in irradiated skin in an animal model of combined radiation and wound skin injury. Radiat

Res. 2011 Nov;176(5):636-48. PMCID: PMC3227557

17. Morrow NV, Lawton CA, Qi XS, Li XA. Impact of computed tomography image quality on image-guided radiation therapy based on soft tissue registration. Int J Radiat Oncol Biol Phys. 2012 Apr 01;82(5):e733-8.
18. Bergom C, Kelly T, Morrow N, Wilson JF, Walker A, Xiang Q, Ahn KW, White J. Prone whole-breast irradiation using three-dimensional conformal radiotherapy in women undergoing breast conservation for early disease yields high rates of excellent to good cosmetic outcomes in patients with large and/or pendulous breasts. Int J Radiat Oncol Biol Phys. 2012 Jul 01;83(3):821-8. PMCID: PMC3845369
19. Bergom C, Prior P, Kainz K, Morrow NV, Ahunbay EE, Walker A, Allen Li X, White J. A phase I/II study piloting accelerated partial breast irradiation using CT-guided intensity modulated radiation therapy in the prone position. Radiother Oncol. 2013 Aug;108(2):215-9.
20. Kharofa J, Morrow N, Kelly T, Rownd J, Paulson E, Rader J, Uyar D, Bradley W, Erickson B. 3-T MRI-based adaptive brachytherapy for cervix cancer: treatment technique and initial clinical outcomes. Brachytherapy. 2014;13(4):319-25.
21. Zeitlin R, Yu G, Wheatley M, Morrow N, Rownd J, Rein L, Banerjee A, Bedi M, Erickson B. Dosimetric predictors of local control and complications in gynecologic transperineal implant patients: The medical college of wisconsin experience. Brachytherapy. 2022;21(1):94-109.
22. Small C, Prior P, Nasief H, Zeitlin R, Saeed H, Paulson E, Morrow N, Rownd J, Erickson B, Bedi M. A general framework to develop a radiomic fingerprint for progression-free survival in cervical cancer. Brachytherapy. 2023;22(6):728-735.

Books, Chapters, and Reviews

1. G. Raithel, N. V. Morrow, "Atom manipulation in optical lattices", Advances in Atomic Molecular and Optical Physics. Vol 53:187-225 (2006)
2. Morrow NV, White J, Li XA, IGRT with CT-on-Rails for prone breast irradiation in "Image Guided Radiation Therapy: A clinical Perspective", ed. Mundt and Roeske. BC Decker. (2009).

Abstracts

1. Dutta SK, Morrow NV, Raithel G. Enhancement of Sisyphus cooling using a bichromatic standing wave Physical Review A - Atomic, Molecular, and Optical Physics. September 2000;62(3):035401-035401.
2. Morrow NV, Dutta SK, Raithel G. Feedback control of atomic motion in optical lattices Technical Digest - Summaries of Papers Presented at the Quantum Electronics and Laser Science Conference, QELS 2001. 2001:117.
3. Feldbaum D, Morrow NV, Dutta SK, Raithel G. Spectroscopy of Rydberg atoms in a non-neutral cold plasma Conference on Quantum Electronics and Laser Science (QELS) - Technical Digest Series. 2002;74:102.
4. Morrow NV, Raithel G. Effect of atomic density on wavepacket motion of atoms in an optical lattice Conference on Quantum Electronics and Laser Science (QELS) - Technical Digest Series. 2003;89.
5. Morrow NV, Raithel G. Effect of Atomic Density on Wavepacket Motion of Atoms in an Optical lattice Optics InfoBase Conference Papers. 2003.
6. Morrow NV, Zhang R, Berman P, Raithel G. Raman optical lattice Optics InfoBase Conference Papers. 2005.
7. Morrow NV, Zhang R, Berman P, Raithel G. Raman optical lattice Quantum Electronics and Laser Science Conference (QELS). 2005;1:523-524.
8. Morrow N, Chen G, Tai A, li X. Implementation of Good Laboratory Practice Standards for Improving Dosimetry in Radiobiology Lab Medical Physics. June 2006;33(6):2109.
9. Kelly T, Lim HJ, Wagner J, Morrow N, Wilson J, White J. 2013. International Journal of Radiation Oncology*Biology*Physics. 2006;66(3):S217. doi:https://doi.org/10.1016/j.ijrobp.2006.07.415
10. Morrow N, Lawton C, li X. WE?E?AUD C?02: Impact of Image Quality On CT Guided Prostate Radiotherapy Medical Physics. June 2008;35(6):2955.
11. Morrow N, Ahunbay E, Robbins J, White J, Li X. SU?FF?J?83: Interfractional Geometric and Dosimetric Variations in Prone Breast Irradiation Medical Physics. June 2009;36(6):2495.
12. Peng C, Morrow N, Lawton C, Li X. Advantages of Diagnostic Quality CT Guided Radiotherapy for Prostate Cancer: Margin Reduction and Dose Escalation. International Journal of Radiation Oncology*Biology*Physics. 2009;75(3):S631.
13. Li X, Ahunbay E, Godley A, Morrow N, Wilson JF, White J. An Online Replanning Technique for Breast Adaptive Radiation Therapy. International Journal of Radiation Oncology*Biology*Physics. 2009;75(3):S71.

14. C. Bergom, Kelly T, Xiang Q, et al. Failure Patterns after 3D Conformal Radiotherapy for Whole Breast Irradiation in the Prone Position. International Journal of Radiation Oncology*Biology*Physics. 2009;75(3):S219-S219.
15. Morrow N, Carver M, Ahunbay E, White J, Wilson J, li X. SU?GG?J?49: Interfractional Breast Shape Variation and Dosimetric Consequences in Whole Breast Irradiation Medical Physics. June 2010;37(6):3156.
16. C. Bergom, Kainz K, Morrow N, et al. Partial Breast Irradiation (PBI) in the Prone Position using Image-guided Intensity Modulated Radiation Therapy: Preliminary Results from a Phase II Study. International Journal of Radiation Oncology*Biology*Physics. 2010;78(3):S223-S223.
17. Kainz K, Morrow N, Erickson-Wittmann BA, Li X. Organ-specific Margins to Account for Relative Organ Displacements in Abdomen and Pelvis for Soft-tissue Based IGRT. International Journal of Radiation Oncology*Biology*Physics. 2010;78(3):S734.
18. Morrow N, Carver M, White J, li X. TU?C?214?11: Interfractional Variations in Partial Breast Irradiation: Prone vs Supine Medical Physics. June 2011(6):3758.
19. Chen X, White J, Morrow N, Wilson J, li X. Significant Inter?Fractional Variations of Lumpectomy Cavity in Partial Breast Irradiation Medical Physics. June 2012;39(6):3604.
20. Currey AD, Kelly TR, Bovi JA, Rownd J, Morrow N, White JR. The Importance of 3-dimensional CT Treatment Planning to Optimize Outcomes From Accelerated Partial Breast Irradiation (APBI) With Brachytherapy in Early Stage Breast Cancer. International Journal of Radiation Oncology*Biology*Physics. 2012;84(3):S241-S242.
21. Bagley JR, Kelly T, Rownd J, Morrow N, Erickson B. Points vs. Volumes: How Are They Related in Assessing Doses to the Organs at Risk during Intracavitary High-Dose-Rate Brachytherapy for Cervical Cancer? Brachytherapy. 2013;12:S59-S60.
22. Kharofa J, Morrow N, Kelly T, Rownd J, Paulson E, Erickson B. 3-Tesla MRI-Based Adaptive Brachytherapy for Cervix Cancer: Treatment Technique and Initial Clinical Outcomes. Brachytherapy. 2013;12:S52.
23. Morrow N, Ahunbay E, Currey A, li X. Dosimetric Impact of Interfractional Anatomy Changes On Breast Radiotherapy Based On Accumulative Dose: IMRT Versus 3DCRT Medical Physics. June 2013;40(6):180.
24. Botros ME, Morrow NV, Kharofa JR, Rownd JJ, Erickson BA. Thrown a Curve: The Circuitous Sigmoid Rules. Brachytherapy. 2015;14:S18-S19.
25. Sparks I, Wirostko W, Rownd J, Morrow N, Erickson B. Long Term Outcomes of I 125 Eye Plaque Brachytherapy in Patients with Choroidal Melanoma. Brachytherapy. 2017;16(3):S36.
26. Sparks I, Mujtaba G, Paulson E, et al. Exposing the Rectosigmoid Junction: An In-Depth Analysis of Sigmoid Complications. Brachytherapy. 2018;17(4):S30.
27. Zeitlin R, Yu G, Wheatley M, et al. Dosimetric Predictors of Local Control and Complications in Transperineal Implant Patients. Brachytherapy. 2018;17(4):S67-S68.
28. Zeitlin R, Bedi M, Sparks I, et al. Partners in Crime? Unifying the Rectum and Sigmoid to Better Forecast and Avoid Late GI Toxicities. Brachytherapy. 2019;18(3):S94-S95.
29. Corteville J, Bedi M, Rownd J, et al. The Uterus or the Organs at Risk? A Difficult and Dose Limiting Choice for Patients with Medically Inoperable Endometrial Cancer. Brachytherapy. 2021;20(3):S52.