**Curriculum Vitae**

**Melissa A.L. Vyfhuis, MD, PhD**

Associate Professor, Department of Radiation Oncology

University of Maryland Medical Center

**Date** February 6th, 2024

**Contact Information**

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Foreign Languages: Spanish (Native)

**Education**

2001-2005 BS, Biochemistry and Molecular Biology, *cum laude*, University of Maryland, Baltimore County

2005-2014 MD, University of Maryland, School of Medicine

2007-2012 PhD, Biochemistry, University of Maryland School of Medicine, *Thesis Advisor: Dr. David J. Weber*

“*Structure, Dynamics, and Function of S100B and S100A5 complexes.”*

**Post Graduate Education and Training**

2014-2015 Internship, Internal Medicine, University of Maryland Medical Center (UMMC)

2015-2019 Residency, Radiation Oncology, UMMC

2018-2019 Chief Resident, Radiation Oncology, UMMC

**Certifications**

2021American Board of Radiology**,** Board Certified in Radiation Oncology

**Medical Licensures**

2019Active, Maryland

**Employment History**

**Academic Appointments**

2024-Present Associate Professor, Radiation Oncology

2019-2024Visiting Assistant Professor, Radiation Oncology

University of Maryland School of Medicine (UMSOM)

**Other Employment**

2019 - 2024 Radiation Oncologist, Chesapeake Oncology and Hematology Associates (COHA), Glen Burnie, MD

**Professional Society Memberships**

2010 – PresentGeneral Member, American Society for Radiation Oncology (ASTRO)

2019 – PresentGeneralMember,ASTRO’s Council on Health Equity, Diversity and Inclusion (HEDI Council)

2024 – Present General Member, NRG Oncology Health Disparities Committee, Research Concept Development sub group

**Honors and Awards**

2001 – 2005 Meyerhoff Undergraduate Scholarship, University of Maryland, Baltimore County, full scholarship (tuition, room and board)

2002 ABRCMS (Annual Biomedical Research Conference for

Minority Students) - First place in Biochemistry poster

Session

2003 – 2005 MARC U\* STAR (Minority Access to Research Careers

Undergraduate Student Training in Undergraduate Research)

Undergraduate Scholarship, University of Maryland, Baltimore County

2005 Medical Student Research Day, UMSOM, Second place, Poster

2007 – 2012 Meyerhoff Graduate Fellowship Award, UMSOM, Biochemistry Department, paid, in part, for my PhD work.

2009 MARC (Minority Access to Research Careers) Travel Award to the ASBMB (American Society for Biochemistry and Molecular Biology) Annual Meeting at Experimental Biology

2009 Summer Minority Research Fellowship, Radiation Oncology, UMSOM

2010 Keystone Symposium Minority Scholarship, Biology, awarded to

attend meeting on Frontiers of NMR (Nuclear Magnetic

Resonance)

2011 ASTRO Minority Fellowship, awarded to do summer research in Radiation Oncology

2013 Radiation Oncology Research Award, UMSOM

2017 ROI Excellence Award for the article “Oncological

outcomes from trimodality therapy receiving definitive doses of neoadjuvant chemoradiation (≥60 Gy) and factors influencing consideration for surgery in stage III non-small cell lung cancer” published in Advances in Radiation Oncology

2017 Lynn Sage Symposium Scholar Award, covers registration, flight and lodging to attend the Lynn Sage Conference in Chicago

2018 Resident Manuscript of the Year Award, UMSOM, article “Implications of Pathological Complete Response (pCR) at the Primary Tumor after Chemoradiotherapy (CRT) followed by Surgical Resection in Patients with Locally Advanced, Non-Small Cell Lung Cancer (LA-NSCLC)” published in the Red Journal

2019 Mentor Recognition Award, the 42nd Annual Medical Student Research Day, UMSOM

**Clinical Activities**

**Clinical Expertise**

Board certified Radiation Oncologist

Wide range of clinical focus which includes treating Thoracic, Head and Neck, Gastrointestinal, Breast, CNS and Genitourinary malignancies

Clinical research focus is primarily defining cancer inequities and developing pragmatic clinical interventions to improve cancer outcomes, particularly in historically marginalized groups.

**Administrative Service**

**Institutional Service**

2020 - Present Chair, Diversity, Equity and Inclusion Committee, UMMC, Department of Radiation Oncology

2021-Present Medical Student Interviewer, Office of Admissions, UMSOM

2022 Lecturer, Hyperthermia as a Resource in Cancer Care

4th Annual Minimally Invasive Cancer Care Symposium, UM-Baltimore Washington Medical Center (UM-BWMC)

2023 Panelist, Breast Cancer Lunch Panel, UM-BWMC

**Diversity, Equity and Inclusion Training/Initiatives**

2020 Everyday Bias for Healthcare Professionals, UMSOM

2020-PresentChair of the DEI Committee, Radiation Oncology

* Meet monthly with the DEI committee, creating educational DEI-centric events for the Radiation Oncology Department
* Created a “DEI Feedback Corner” via Citrix so colleagues have a way to anonymously voice any DEI concerns or needs in the department
* DEI Book/Movie Club – Started November 2021, quarterly event we host in the department discussing a diverse range of books and movies focusing on the voices of historically marginalized groups. Done 4 times a year, 1-hour discussion.
* DEI Speaker Series – Once a year, we invite a speaker to discuss DEI themes:
  + May 2022: Dr. Roderick King *“UMMS Equity, Diversity and Inclusion: Our Cultural Evolution"*
  + May 2023: Dr. Karen Winkfield “*Strategies in implementing Racial Equality in Radiation Oncology*”
* DEI subcommittees – focusing on updating departmental policies and progress radiation oncology diversity and equity via:
  + Recruitment – subcommittee concentrating on ensuring best practices for residency and faculty interviews, providing a more holistic approach
  + Retention – subcommittee’s purpose is to explore reasons that impact employee retention, working with HR to increase transparency in pay for all staff, aiding to promote pay equity and incorporate DEI representation to exit interviews
  + Review – subcommittee is focusing on incorporating DEI training and education into all employee quarterly reviews

2022-Present Moderator, Allyship Program, Radiation Oncology (https://leanin.org/allyship-at-work)- training program that empowers employees to take meaningful action and build an inclusive workplace culture. We are teaching this program twice a year to the Radiation Oncology Department. The training is a total of 6 hours.

2022-Present DEI Leadership Council, UMSOM **–** A group of faculty/staff working together to develop, promote and implement DEI initiatives to medical students, residents, staff and faculty.

2023-Present Holistic Residency Selection and Interview – working with Dr. Sarah McAvoy, Radiation Oncology Program Director and the DEI recruitment subcommittee to design and implement a holistic and standardized medical residency screening and interview rubric, to aid in diversifying our applicant pool. This will be expanded to eventually include physics residency selection, dosimetry trainees and new faculty hires.

**Teaching Service**

**Undergraduate Teaching**

2020 Lecturer, Breaking the glass ceiling of cancer treatment: addressing cancer disparities in 2020**,** U-RISE program at UMBC

35 undergraduates, 2 hours contact for the lecture

2021 Panelist,The Leadership Alliance: Pathways to Health Equity

200 undergraduates, 2 hours contact for the panel

**Medical Student Teaching**

2017-presentResearch Mentor

2-3 medical students/year, 1-2 hours/month

2019-present Mentor, PRISM and UM Scholars

1 medical student, 5-10 hours/week for a summer research project, resulting in a poster/oral presentation and eventual publication

2023 Lecturer, Nutrition in Cancer: Achieving Equity in Cancer Care

30 UM Scholar Students, 1.5 hours for contact for the lecture

2023 Mentor, Julius Friedenwald House, UMSOM

19 medical students, 3-4 hours/quarterly

**Resident Student Teaching**

2019-present Research Mentor

1-2 residents a year, 20-40 hours/year, resulting in publication

2019-present Educator, Weekly Community Rounds

8-10 residents, 1-hour/week for each year

2020 Lecturer, Cancer Disparities in Radiation Oncology

8-10 residents, 1 hour/year

2021-present Examiner, UM Mock Orals Course, Breast and Thoracic sections,

7-10 residents, 8 hrs/year

2021-present Mentor, ARRO Equity and Inclusion Subcommittee (EISC) Diversity Mentorship Program

2 out of state residents, 1-2 hours/month for one year

2023 Lecturer, Musculoskeletal System and Head & Neck Anatomy

3 medical physics residents, 2-1-hour lectures/year

**Post-Graduate Teaching**

2022-present Examiner, Mock Orals, Clinical Board Exam preparation

2-3 graduated residents, 2-3 hours/year

**Grant Support**

**Active Grants**

1/1/2020 – 12/31/2023 (PI, 5%)

*“Effects of Food Deserts on Cancer Care and Outcomes”*

American Cancer Society Institutional Research

Award number: ACS IRG-18-160-16

Annual Direct Costs: $10,000

Total Direct Costs: $30,000

**Completed Grants:**

2009-2012 (PI, 75%)

*“Protein dynamics of calcium-S100A5 in the presence and absence of target peptide”*

Ruth L, Kirschstein National Research Service Award (F31) Grant Number 1F31CA144560

Annual Direct Costs: $50,000

Total Direct Costs: $150,000

**Clinical Protocols**:

6/1/2011 – 1/23/2023 (Co-PI, 5%)

**GCC 1175** – “Thoracic oncology database” Retrospective review of stage III NSCLC patients focusing on patient demographic, treatment, toxicities and clinical outcomes in those treated with curative intent at UMMC.

1/1/2016 – 8/23/2019 (Co-PI, 5%)

**GCC 1875** – “Preserving endocrine ovarian function in premenopausal women undergoing whole pelvis irradiation for cervical cancer): A dosimetric feasibility study comparing volumetric modulated arc therapy (VMAT) and intensity modulated proton therapy (IMPT)”

1/1/2019 – Present (PI, 5%)

**GCC-1939** - “Identifying Psychosocial, Demographic and Economic Variables Influencing Treatment Decisions and Outcomes in Oncological Care”

1/2/2020 – Present (PI, 5%)

**GCC 19134 – “**Implications of Religious Beliefs, Mistrust and Other Psychosocial, Demographic and Economic Variables Influencing Women’s Decision on Enrolling in Radiation Breast Cancer Trials”

9/29/2023 – Present (PI, 5%)

**GCC 2379 –** “Implications of Religious Beliefs, Mistrust and Other Psychosocial, Demographic and Economic Variables Influencing a Patient’s Decision on Enrolling in Radiation-Specific Cancer Trials”

**Publications:**

**Peer-reviewed journal articles**

1. [Wilder PT](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Search&Term=%22Wilder%20PT%22%5BAuthor%5D&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DiscoveryPanel.Pubmed_RVAbstractPlus), [Lin J](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Search&Term=%22Lin%20J%22%5BAuthor%5D&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DiscoveryPanel.Pubmed_RVAbstractPlus), [Bair CL](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Search&Term=%22Bair%20CL%22%5BAuthor%5D&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DiscoveryPanel.Pubmed_RVAbstractPlus), [Charpentier TH](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Search&Term=%22Charpentier%20TH%22%5BAuthor%5D&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DiscoveryPanel.Pubmed_RVAbstractPlus), [Yang D](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Search&Term=%22Yang%20D%22%5BAuthor%5D&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DiscoveryPanel.Pubmed_RVAbstractPlus), [**Liriano M**](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Search&Term=%22Liriano%20M%22%5BAuthor%5D&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DiscoveryPanel.Pubmed_RVAbstractPlus), [Varney KM](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Search&Term=%22Varney%20KM%22%5BAuthor%5D&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DiscoveryPanel.Pubmed_RVAbstractPlus), [Lee A](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Search&Term=%22Lee%20A%22%5BAuthor%5D&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DiscoveryPanel.Pubmed_RVAbstractPlus), [Oppenheim AB](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Search&Term=%22Oppenheim%20AB%22%5BAuthor%5D&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DiscoveryPanel.Pubmed_RVAbstractPlus), [Adhya S](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Search&Term=%22Adhya%20S%22%5BAuthor%5D&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DiscoveryPanel.Pubmed_RVAbstractPlus), [Carrier F](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Search&Term=%22Carrier%20F%22%5BAuthor%5D&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DiscoveryPanel.Pubmed_RVAbstractPlus), [Weber DJ](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Search&Term=%22Weber%20DJ%22%5BAuthor%5D&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DiscoveryPanel.Pubmed_RVAbstractPlus). Recognition of the tumor suppressor protein p53 and other protein targets by the calcium-binding protein S100B. Biochim Biophys Acta. 2006 Nov;1763(11):1284-97.
2. [Saad JS](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Search&Term=%22Saad%20JS%22%5BAuthor%5D&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DiscoveryPanel.Pubmed_RVAbstractPlus), Loeliger E, Luncsford,P, [**Liriano M**](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Search&Term=%22Liriano%20M%22%5BAuthor%5D&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DiscoveryPanel.Pubmed_RVAbstractPlus), [Tai J](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Search&Term=%22Tai%20J%22%5BAuthor%5D&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DiscoveryPanel.Pubmed_RVAbstractPlus), [Kim A](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Search&Term=%22Kim%20A%22%5BAuthor%5D&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DiscoveryPanel.Pubmed_RVAbstractPlus), [Miller J](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Search&Term=%22Miller%20J%22%5BAuthor%5D&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DiscoveryPanel.Pubmed_RVAbstractPlus), [Joshi A](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Search&Term=%22Joshi%20A%22%5BAuthor%5D&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DiscoveryPanel.Pubmed_RVAbstractPlus), [Freed EO](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Search&Term=%22Freed%20EO%22%5BAuthor%5D&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DiscoveryPanel.Pubmed_RVAbstractPlus), and [Summers MF](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Search&Term=%22Summers%20MF%22%5BAuthor%5D&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DiscoveryPanel.Pubmed_RVAbstractPlus). Point mutations in the HIV-1 matrix protein turn off the myristyl switch. Journal of Molecular Biology. 2007 Feb;366(2):574-85.
3. Charpentier TH, Wilder PT, **Liriano MA**, Varney KM, Pozharski E, MacKerell AD Jr, Coop A, Toth EA, Weber DJ. Divalent metal ion complexes of S100B in the absence and presence of pentamidine. J Mol Biol. 2008 Sep 26;382(1):56-73.
4. Charpentier TH, Wilder PT, **Liriano MA**, Varney KM, Zhong S, Coop A, Pozharski E, MacKerell AD Jr, Toth EA, Weber DJ. Small molecules bound to unique sites in the target protein binding cleft of calcium-bound S100B as characterized by nuclear magnetic resonance and X-raycrystallography. Biochemistry. 2009 Jul 7;48(26):6202-12.
5. Charpentier TH, Thompson LE, **Liriano MA**, Varney KM, Wilder PT, Pozharski E, Toth EA, Weber, DJ. The effects of the CapZ peptide (TRTK-12) binding to the S100B-Ca as examined by NMR and X-ray crystallography. J Mol Biol. 2010Mar 12*;*395(5):1227-43.
6. Malashkevich V, Dulyaninova N, Ramagopal UA, **Liriano MA**, Varney K, Knight D, Brenowitz M, Weber D, Almo S, Bresnick, A. Phenothiazines inhibit S100A4 function by inducing protein oligomerization. PNAS*.* 2010 May 11;107(19):8605-10.
7. Wilder PT, Charpentier TH, **Liriano MA**, Gianni K, Varney KM, Pozharski E, Coop A, Toth EA, Mackerell AD, Weber DJ. In vitro screening and structural characterization of inhibitors of the S100B-p53 interaction. Int J High Throughput Screen*.* 2010 Jul 7;2010(1):109-126.
8. **Liriano MA**, Varney KM, Wright NT, Hoffman CL, Toth EA, Ishima R, Weber DJ. Target binding to S100B reduces its dynamic properties and increases Ca2+-binding affinity for wild type and EF-hand mutant proteins. J Mol Biol. 2012 Oct 26;423(3):365-85.
9. Hartman KG, McKnight LE, **Liriano MA**, Weber DJ. [The evolution of S100B inhibitors for the treatment of malignant melanoma.](https://www.ncbi.nlm.nih.gov/pubmed/23256816) Future Med Chem. 2013 Jan;5(1): 97-109.
10. Lam VK, Bentzen SM, Mohindra P, Nichols EM, Bhooshan N, **Vyfhuis** **M**, Scilla KA, Feigenberg SJ, Edelman MJ, Feliciano JL. [Obesity is associated with long-term improved survival in definitively treated locally advanced non-small cell lung cancer (NSCLC).](https://www.ncbi.nlm.nih.gov/pubmed/28213000) Lung Cancer. 2017 Feb;104: 52-57.
11. Scilla KA, Bentzen SM, Lam VK, Mohindra P, Nichols EM, **Vyfhuis MA**, Bhooshan N, Feigenberg SJ, Edelman MJ, Feliciano JL. [Neutrophil-Lymphocyte Ratio Is a Prognostic Marker in Patients with Locally Advanced (Stage IIIA and IIIB) Non-Small Cell Lung Cancer Treated with Combined Modality Therapy.](https://www.ncbi.nlm.nih.gov/pubmed/28533476) Oncologist. 2017 Jun;22(6):737-742.
12. Diwanji T, Mohindra P, **Vyfhuis M**, Snider J, Kalavagunta C, Mossahebi S, Yu J, Feigenberg S, Badiyan S. Advances in radiotherapy techniques and delivery for NSCLC: Benefits of IMRT, proton therapy, and SBRT. Transl Lung Cancer Res. 2017 Apr;6(2):131-147.
13. Remick J, Regine W, Malyapa R, Ng V, **Vyfhuis M**, Diwanji T, Shyu S, Snider JW. Excellent Pathologic Response and Atypical Clinical Course of High-Grade Extremity Sarcoma to Neoadjuvant Pencil Beam Scanning Proton Therapy.Cureus. 2017 Sep15;9(9): e1687.
14. Schneider C, **Vyfhuis M**, Morse E, Diwanji T, Snider J, Mossahebi S, Steacy K, Malyapa R. Dramatic Response of a Large Sacral Chordoma to Intensity Modulated Proton Beam Therapy. Cureus. 2017 Sep 10; 9(9): e1670.
15. **Vyfhuis M**, Bhooshan N, Burrows W, Turner M, Suntharalingam M, Donahue J, Nichols E, Feliciano J, Bentzen S, Badiyan S, Carr S, Friedberg J, Simone II C, Edelman M, Feigenberg S, Mohindra P. Oncological outcomes from trimodality therapy receiving definitive doses of neoadjuvant chemoradiation (≥60 Gy) and factors influencing consideration for surgery in stage III non-small cell lung cancer. Advances in Radiation Oncology. 2017 Jul 31; 2(3):259-269.
16. **Vyfhuis M**, Bhooshan N, Molitoris J, Bentzen S, Feliciano J, Edelman M, Burrows W, Nichols E, Suntharalingam M, Donahue J, Nagib M, Carr S, Friedberg J, Badiyan S, Simone II C, Feigenberg S, Mohindra P. Clinical outcomes of black vs. Non-black patients with locally advanced non–small cell lung cancer. Lung Cancer. 2017 Dec;114:44-49.
17. **Vyfhuis M,** Onyeuku N, Diwanji T, Mossahebi S, Badiyan S, Mohindra, P, Simone II C. Advances in proton therapy in lung cancer. 2018. Therapeutic Advances in Respiratory Disease. 2018; Jan-Dec;12:1-16.
18. Tsai A, **Vyfhuis M,** Francis M, Merechi F, Burke A, Regine W. Radiation-Induced Undifferentiated Pleopmorphic Sarcoma of the Heart: A Case Report. Practical Radiation Oncology. 2018 Mar - Apr;8(2): 136-139.
19. **Vyfhuis M**, Bhooshan N, Burrows W, Turner M, Suntharalingam M, Donahue J, Nichols E, Feliciano J, Bentzen S, Badiyan S, Carr S, Friedberg J, Simone II C, Edelman M, Feigenberg S, Mohindra P. Implications of Pathological Complete Response (pCR) at the Primary Tumor after Chemoradiotherapy (CRT) followed by Surgical Resection in Patients with Locally Advanced, Non-Small Cell Lung Cancer (LA-NSCLC). International Journal of Radiation Oncology Biology Physics. 2018 Jun 1;101(2):445-452.
20. Rice S**,** Molitoris J, **Vyfhuis M**, Edelman M, Burrows M, Feliciano J, Nichols E, Suntharalingam M, Donahue J, Carr S, Friedberg J, Badiyan S, Simone 2nd C, Feigenberg S, Mohindra P. Nodal Size Predicts for Asymptomatic Brain Metastases in Non-Small Cell Lung Cancer Patients at Diagnosis. Clinical Lung Cancer. September 2018;pii:S1525-7304(18)30259-6.
21. **Vyfhuis M**, Rice S, Remick J, Mossahebi S, Badiyan S, Mohindra P, Simone II C. Reirradiation for Locoregionally Recurrent Non-small cell lung cancer: A Review. Journal of Thoracic Disease. 2018 Aug;10(21): S2522-S2536.
22. **Vyfhuis M**, Bentzen S, Bhooshan N, Edelman M, Burrows W, Nichols E, Suntharalingam M, Donahue J, Carr S, Friedberg J, Badiyan S, Simone II C, Feigenberg S, Mohindra P, Feliciano J. Marital status is an independent predictor of survival for stage III non-small cell lung cancer (NSCLC) patients undergoing definitive chemoradiation with or without surgery. Journal of Community and Supportive Oncology. September 2018:16(5);e194-e201.
23. **Vyfhuis M**, Bentzen S, Molitoris J, Grover S, Badiyan S, Simone II C, Mohindra P. Patterns of Care and Survival in Black and Latino Patients as Compared to White Patients with Stage III Non-Small Cell Lung Cancer. Clin Lung Cancer. February 2019; pii: S1525-7304(19)30065-8.
24. **Vyfhuis M**, Fellows Z, McGovern N, Mingyao Z, Mohindra P, Wong J, Nichols E. Preserving endocrine ovarian function in premenopausal women undergoing whole pelvis irradiation for cervical cancer: A dosimetric feasibility study. Int J Particle Ther. 2019 May;6(1):10-17.
25. Rice S**, Vyfhuis M**, Scilla K, Burrows W, Bhooshan N, Suntharalingam M, Edelman M, Feliciano J, Badiyan S, Simone 2nd C, Bentzen S, Feigenberg S, Mohindra P. Insurance status is an independent predictor of overall survival in patients with stage III non-small cell lung cancer treated with curative intent. Clin Lung Cancer. August 2019. S1525-7304(19)30258-X.
26. **Vyfhuis M**, Zhu M, Agyepong B, Nichols E. Techniques for Treating Bilateral Breast Cancer Patients Using Pencil Beam Scanning Technology. Int J Particle Ther. September 2019. 6(2): 1-11.
27. Haskins CP, Champ CE, Miller Rm **Vyfhuis M**. Nutrition in Cancer: Evidence and Equality. Review, Advances in Radiation Oncology. 2020 May 24;5(5): 817-823.
28. **Vyfhuis M**, Suzuki I, Bentzen S, Cullen K, Goloubeva O. Adherence to Guideline‐Concordant Care and Its Effect on Survival in Black Patients with Head and Neck Cancers: A SEER‐Medicare Analysis**.** Oncologist. 2021 Jul;26(7):579-587.
29. Kronfli D, Savla B, Lievers A, Baker K, **Vyfhuis M**. Identifying Psychosocial Needs of Cancer Patients Undergoing Curative Radiation Therapy in an Inner-City Academic Center to Address Racial Disparities**.** International Journal of Radiation Oncology Biology Physics. 2022 Oct 1;114(2):185-194.
30. Kerans SJ, Samanta S, **Vyfhuis M**, Guerrero M, Bang C, Mishra M, Rana Z, Amin P, Kwok Y, Naslund M, Molitoris J. Identifying Racial Analysis of Clinical & Biochemical Outcomes in Prostate Cancer Patients Treated with Low-Dose-Rate Brachytherapy**.** International Journal of Radiation Oncology Biology Physics. 2023 May 1;116(1):87-95.
31. Savla B, Hamza M, Yacubovich D, Cobbs S, Petrovska L., Scilla K, Burrows W, Mehra R, Miller RC, Rolfo C, Bentzen SM, Mohindra P, **Vyfhuis M**. The impact of Body Mass Index (BMI) and residence in Food Priority Areas (FPAs) on patterns-of-care and cancer outcomes in patients with stage III non-small cell lung cancer**.** International Journal of Radiation Oncology Biology Physics. 2023 May 1;116(1):50-59.
32. Cheung, C.K., Jones, L.P., Lee, H., Bridges, J.N., Tucker-Seeley, R., **Vyfhuis, M**., Gianelle, M., Thomas, B.N., Betz, G.D., Waldo, L., Hirsch, A., & Ntiri, S.O. Anticipatory guidance: Developing a patient navigation pathway to reduce the financial toxicity of cancer. Medical Research Archives. Oct 2023;11(10).

**Submitted or In-Revision Peer-reviewed journal articles**

1. Markan U, Baker K, Eggleston C, Cheston S, Mohindra, P, Nichols E, McAvoy S, Bentzen S, **Vyfhuis M.** Psychosocial factors that influence a woman’s decision to enroll in a clinical trial – implications on how to improve clinical trial enrollment among black women. *International Journal of Radiation Oncology Biology Physics.* 2023 (Answering Reviewers).
2. Lepore L, Kronfli D, Baker K, Eggleston C, Bentzen S, Mohindra, P, Vyfhuis M. Identifying Nutritional Inequities of Cancer Patients Residing in Food Deserts. *JNCI*. 2023 (Under Review).

**Editorials and Other Brief Communications**

1. **Vyfhuis M**, Lassman A, Mehta M. Does WBRT still have a role for limited brain metastases? Point/Counter. HemeOnc Today*.* 2018; 19(3):11
2. **Vyfhuis M,** Lassman A, Mehta M. Radiation choice for brain metastases requires transparent discussion of tradeoffs. Commentary. HemeOnc Today*.* 2018; 19(4):1-9
3. **Vyfhuis M** and Edelman M. The Role for Trimodality Therapy in Stage III NSCLC. Commentary. LungCancerNews. 2018;
4. **Vyfhuis M,** Mohindra, P, Simone II C. Stereotactic Body Radiation Therapy versus Thermal Ablation for Early Stage Non-small Cell Lung Cancer. Letter-to-the-editor, Radiology. 2019; 290(2):574-575.
5. **Vyfhuis M,** Mohindra, P, Simone II C. Surgery for Early-stage Small Cell Lung Cancer: Is it worth it? Editorial Commentary, Mediastinum. 2019;3:25.
6. Evans S, Blitzblau R, Chapman C, Chollet-Lipscomb C, Deville C, Ford E, Gibbs I, Howell K, Peters G, Ponce S, Seldon C, Spector-Bagdaddy K, Tarbel N, Terezakis S, **Vyfhuis M**, Wright J, Zietman A, Jagsi R. Restricted Access to Abortion, the Dobbs Ruling, and Radiation Oncology: Standing United Against Reproductive Injustice. International Journal of Radiation Oncology Biology Physics. August 2022;114(3):385-389.

**Book Chapters**

1. **Vyfhuis M** and Malyapa R. Chapter 5: Base of Skull Tumors: Chordoma and Chondrosarcoma Base of Skull. “Principles & Practice of Clinical Proton Therapy”, Advanced Medical Publishing, Inc. USA, 2017.

**Abstracts and/or Proceedings**

1. **Liriano, M.** and Lima, C. Structural and functional characteristics of evolutionary conserved large G-proteins. (**Oral**) ABRCMS (Annual Biomedical Research Conference for Minority Students), New Orleans, LA, November 2002.
2. **Liriano, M.** and Caragine, T. DNA identification of irradiated evidence. (**Oral**) ABRCMS (Annual Biomedical Research Conference for Minority Students), San Diego, CA, November 2003.
3. **Liriano, M**. and Summers, M. Structure elucidation of mutated matrix portion of HIV-1 protein. (poster) ABRCMS (Annual Biomedical Research Conference for Minority Students), Dallas, TX, November 2004.
4. **Liriano, M.** and Summers, M. Point mutations in the HIV-1 matrix protein turn off the myristyl switch. (poster) Medical Student Research Day, UMSOM, Baltimore, MD, October 2005.
5. **Liriano, M**. and Weber, D. Structure activity relationships of small molecules interfering with the S100B and p53 interaction. (poster) Graduate Research Symposium, UMSOM, Baltimore, MD, March 2008.
6. **Liriano, M**. and Weber, D. Protein dynamics of the calcium-binding protein S100A5 in the presence and absence of target. (poster) ASBMB (Annual Biomedical Research Conference for Minority Students) Meeting, Experimental Biology in New Orleans, LA, April 2009.
7. **Liriano, M**. and Weber, D. Protein dynamics of the calcium-binding protein S100A5 in the presence and absence of target. (poster) MD/PhD Annual Conference in Keystone, CO, July 2009.
8. **Liriano, M**. and Weber, D. Protein dynamics of the calcium-binding protein S100A5 in the presence and absence of target. (poster) MD/PhD First Annual Conference in Baltimore, MD, July 2009.
9. **Liriano, M**. and Weber, D. Protein dynamics of S100A5 and S100B D63N in the presence and absence of target peptide. (poster) First Annual Cancer Biology Retreat in Baltimore, MD, March 2010.
10. **Liriano, M**. and Weber, D. Relaxation dispersion profiles of the calcium-binding proteins S100A5 and S100A1. (poster) Protein Society Meeting, San Diego, CA, August 2010.
11. **Liriano, M**. and Weber, D. Relaxation dispersion profiles of the calcium-binding proteins S100A5 and S100A1. (poster) Frontiers in NMR Biology Meeting, Big Sky, MO, January 2011.
12. **Liriano, M**. and Weber, D. 15N-backbone and side-chain dynamics of the mutant calcium-binding protein S100B D63N. (poster) AACR (American Association for Cancer Research) Meeting, Orlando, FL, April 2011.
13. **Liriano, M**. and Weber, D. Protein dynamics of S100B and D63NS100B in the presence and absence of a CapZ-derived peptide (TRTK-12). (poster) SACNAS (Society for Advancement of Chicanos and Native Americans in Science) Meeting, San Jose, CA, October 2011.
14. **Liriano, M**. Nichols E, Morris CG, Burrows W, Battafarano RJ, Garofalo MC, Turner M, Suntharalingam M, Edelman MJ, Feigenberg, SJ. Trimodality therapy for locally advanced non-small cell lung cancer (NSCLC). (poster) Thoracic Symposium Meeting, Chicago, IL, August 2012.
15. **Liriano, M**. Nichols E, Morris CG, Burrows W, Battafarano RJ, Garofalo MC, Turner M, Suntharalingam M, Edelman MJ, Feigenberg, SJ. Trimodality therapy for locally advanced non-small cell lung cancer (NSCLC). (poster) Tenth Annual Medical Students' Steps to Success Meeting, Uniformed Services University, Bethesda, MD, April 2013.
16. Feliciano JL, Bentzen SM, Lam VK, Schrenk KA, Mohindra P, Nichols EM, **Vyfhius M**, Bhooshan N, Feigenberg SJ, Edelman M. Marital Status Is Strongly Prognostic and Associated with More Favorable Nutritional Status in Locally Advanced Non-Small Cell Lung Cancer. (poster) IASLC Meeting, Denver, CO, September 2015.
17. Lam VK, Bentzen SM, Mohindra P, Nichols EM, Bhooshan N, **Vyfhius M**, Feigenberg SJ, Edelman M, Feliciano JL. Obesity Is Associated with Long-Term Improved Survival in Definitively Treated Locally Advanced Non-Small Cell Lung Cancer (LA-NSCLC). (poster) IASLC Meeting, Denver, CO, September 2015.
18. Schrenk KA, Bentzen SM, Lam VK, Mohindra P, Nichols EM, **Vyfhius M**, Bhooshan N, Feigenberg SJ, Edelman M, Feliciano JL. Neutrophil-Lymphocyte Ratio (NLR) as a Prognostic Marker in Locally Advanced Non-Small Cell Lung Cancer (LANSCLC). (poster) IASLC Meeting, Denver, CO, September 2015.
19. Hyder J, Bhooshan N, Feliciano J, **Vyfhuis M**, Lam V, Suntharalingam M, Burrows W, Nichols E, Edelman MJ, Feigenberg S, Cohen EP, Vujaskovic Z, Mohindra P. Pathological Response with Angiotensin Converting Enzyme Inhibitor/Angiotensin Receptor Blocker use in Advanced Non-small cell Lung Cancer. (poster) IASLC Meeting, Denver, CO, September 2015.
20. Bhooshan N, **Vyfhuis M**, Feliciano J, Bentzen SM, Nichols EM, Edelman MJ, Burrows W, Suntharalingam M, Carr S, Friedberg J, Badiyan SN, Feigenberg SJ, Mohindra P. Patterns of Recurrence in Patients with Locally Advanced Non-Small Cell Lung Cancer (LANSCLC) Treated With Concurrent Chemoradiation (CRT) Followed by Surgery. (poster) ASTRO Meeting, Boston, MA, September 2016.
21. Rice S, Molitoris JK, **Vyfhuis M**, Mohindra P, Feliciano J, Badiyan SN, Nichols EM, Edelman MJ, Friedberg J, Burrows WM, Feigenberg SJ. Magnetic resonance imaging brain staging in stage I-III non-small cell lung cancer (NSCLC): Incidence and clinicopathologic factors in asymptomatic brain metastases at diagnosis. (poster) ASTRO Meeting, Boston, MA, September 2016.
22. **Vyfhuis M**, Bhooshan N, Bentzen S, Nichols EM, Burrows W, Battafarano R, Bodor M, Edelman M, Feliciano J, Feigenberg SJ, Mohindra P. Clinical predictors of complete pathologic response in patients considered for trimodality treatment with locally advanced, stage III NSCLC. (poster) ASTRO Meeting, Boston, MA, September 2016.
23. **Vyfhuis M**, Bhooshan N, Molitoris J, Bentzen S, Feliciano J, Edelman M, Burrows W, Nichols E, Suntharalingam M, Donahue J, Nagib M, Carr S, Friedberg J, Badiyan S, Simone II C, Feigenberg S, Mohindra P. Black patients with locally advanced non-small cell lung cancer (LA- NSCLC) - An inclusive multi-modality approach is justified. (poster) American Radium Society (ARS) Annual Meeting, Colorado Springs, CO, May 2017.
24. **Vyfhuis M**, Bentzen S, Feliciano J, Simone II C, Mohindra P. Survival and Patterns of Care Comparing Black and White Patients with All Stages of NSCLC: An NCDB Analysis. (poster) WLC Meeting, Toronto, Canada, September 2018.
25. Haskins C, Kronfli D, Lievers A, Haskins CP**,** Kronfli D, Lievers A, Waldo L, Baker K, Bentzen S, Mohindra P, **Vyfhuis M.** Characterizing definitively treated cancer patients living within food priority areas (FPAs) to find predictors of perceived access to healthy meals (poster). Virtual ASTRO Meeting, October 2020.
26. Hamza, M, Mohindra, P, Bentzen S, Schilla K, Burrows W, Mehra R, Rolfo C, Miller R, **Vyfhuis M.** Effects of living in food priority areas on treatment and outcomes in patients with stage III NSCLC. (poster). Virtual ASTRO Meeting, October 2020.
27. Saeed AM**, Vyfhuis M,** Scilla KA, Molitoris JK Simone CB II, Burrows WM, Mehra R, Rolfo C, Miller RC, Mohindra P. Clinical Outcomes in Non-Small Cell Lung Cancer Patients Treated with Pencil Beam Scanning Proton Reirradiation after Previous Thoracic Radiation. (poster). Virtual ASTRO Meeting, October 2020.
28. Markan U, Decesaris C, Oswald P, Cheston S, Mohindra P, Nichols E, McAvoy S, **Vyfhuis M.** Factors that influence a woman’s decision to enroll in breast cancer clinical trials – implications on how to improve minority enrollment and retention**. (Oral).** ACRO Meeting, February 2021. **Awarded the Bronze Medal at the Conference.**
29. Savla B, Hamza M, Markan K, Yacubovich D, Cobbs S, Scilla K, Burrows W, Mehra R, Miller RC, Rolfo C, Mohindra P, **Vyfhuis M.** Residing in Food Priority Areas (FPAs) Correlates with Unique Socioeconomic Demographics and Patterns-of-care in Patients with Stage III Non-small Cell Lung Cancer (NSCLC) (poster). Virtual ARS Meeting, September 2021. **Awarded one of the Best Posters at the Conference.**
30. Nichols EM, Decesaris C, Paulosky K, Yacubovich D, McAvoy SA, **Vyfhuis M.** Cardiac Risk Factors in Black Women With Breast Cancer Undergoing Proton Therapy (PBT): Potential for Increased Therapeutic Gain (poster). ASTRO Meeting, October 2021.
31. Markan K, Saeed A, Hamza MA, **Vyfhuis M**, Rolfo C, Mohindra P. Lymphopenia Assessment in Stage III Non-Small-Cell Lung Cancer (NSCLC) Patients Treated With Proton or Photon Radiation Therapy (poster). ASTRO Meeting, October 2021.
32. Cohen JD, Sanchez-Cerro MK, **Vyfhuis M**, Patel AN, Dudley SA, Mohindra P. Role of Modified Frailty Index in Predicting Oncologic Outcomes From Moderately Hypofractionated Radiotherapy for Patients with Stage I-IIB Non-Small Cell Lung Cancer (poster). ASTRO Meeting, October 2021.
33. Savla B, Hamza M, Markan K, Yacubovich D, Cobbs S, Petrovska L, Scilla K, Burrows W, Mehra R, Miller RC, Rolfo C, Mohindra P, **Vyfhuis M**. The Impact of Body Mass Index and Residence in Food Priority Areas on Patterns-of-Care and Cancer Outcomes in Patients with Stage III Non-Small Cell Lung Cancer (poster). ASTRO Meeting, October 2022.
34. Markan U, Oswald P, Cheston SB, Mohindra P, Cobbs S, Nichols E, McAvoy S, **Vyfhuis M**. Factors that influence a woman’s decision to enroll in breast cancer clinical trials – implications on how to improve minority enrollment and retention (poster). ASTRO Meeting, October 2022.
35. Kalavagunta C, Cammin J, McAvoy S, **Vyfhuis M**, Slyke A, Mashayekhi M, Ding J, Gopal A. Assessing the prevenance of Diversity, Equity and Inclusion Information in CAMPEP Accredited Medical Physics Residency Program Webpages in the United States (poster). AAPM Meeting, July 2023.
36. Lepore L, Kronfli D, Baker K, Eggleston C, Bentzen S, Mohindra P, **Vyfhuis M**. Identifying and Addressing Nutritional Inequities and Psychosocial Needs of Cancer Patients Residing in Zip-Code Designated Food Priority Areas (FPAs)(poster). ASTRO Meeting, October 2023.

**Major Invited Speeches**

Local

1. **Vyfhuis, M.,** The Management of Lung Cancer Review, Department of Radiation Oncology, UMMC, 2016
2. **Vyfhuis, M.**, Pediatric Review: Management of Ewings Sarcoma, Department of Radiation Oncology, UMMC, 2017
3. **Vyfhuis, M.**, Genitourinary Review, Department of Radiation Oncology, UMMC, 2017
4. **Vyfhuis, M.**, The management of Cervical and Endometrial Cancer Review, Department of Radiation Oncology, UMMC, 2018
5. **Vyfhuis, M.**, The glass ceiling of locally advanced NSCLC: addressing locoregional control and disparities, Department of Radiation Oncology, Georgetown University, 2018
6. **Vyfhuis, M.**, The glass ceiling of locally advanced NSCLC: addressing locoregional control and disparities, Department of Radiation Oncology, Johns Hopkins Hospital, 2019
7. **Vyfhuis, M.**, The glass ceiling of locally advanced NSCLC: addressing locoregional control and disparities, Department of Radiation Oncology, University of Miami, 2019

National

1. **Liriano, M**. and Weber, D., Structure activity relationships of small molecules interfering with the S100B and p53 interaction, Meyerhoff 20th Anniversary Symposium, Baltimore, MD, 2008
2. **Liriano, M**. Nichols E, Morris CG, Burrows W, Battafarano RJ, Garofalo MC, Turner M, Suntharalingam M, Edelman MJ, Feigenberg, SJ., Trimodality therapy for locally advanced non-small cell lung cancer (NSCLC), ASTRO, Boston, MA, 2012
3. Bhooshan N, Edelman MJ, Nichols E, **Vyfhuis M**, Feliciano J, Burrows W, Suntharalingam M, D’Souza W, Vujaskovic Z, Feigenberg S, Mohindra P, Does Severe Radiation Pneumonitis (RP) Affect Clinical Outcomes in Non-Operable Stage III Non-Small Cell Lung Cancer (NSCLC) Patients Treated with Carboplatin/Paclitaxel (CP)-based Concurrent Chemoradiation Therapy (CRT)?, ASTRO, San Antonio, TX, 2015
4. Rice S, **Vyfhuis M**, Bhooshan N, Edelman MJ, Burrows W, Nichols EM, Suntharalingam M, Donahue J, Carr S, Friedberg J, Badiyan SN, Feliciano J, Feigenberg SJ, Mohindra P, Does insurance status impact survival outcomes in patients with stage III NSCLC treated with curative intent?, ARS, Colorado Springs, CO, 2017
5. **Vyfhuis M**, Bhooshan N, Molitoris J, Bentzen S, Feliciano J, Edelman M, Burrows W, Nichols E, Suntharalingam M, Donahue J, Nagib M, Carr S, Friedberg J, Badiyan S, Simone II C, Feigenberg S, Mohindra P. Black patients with locally advanced non-small cell lung cancer (LA- NSCLC) An inclusive multi-modalityapproach is justified, ASTRO, San Diego, CA, 2017
6. Markan U, Decesaris C, Oswald, P, Cheston S, Mohindra P, Nichols E, McAvoy S, **Vyfhuis M**. Factors that influence a woman’s decision to enroll in breast cancer clinical trials – implications on how to improve minority enrollment and retention, ACRO, 2021 (Bronze medal winner)
7. Singh G, Decesaris C, Patel A, Mishra M, Cheston S, Mohindra P, Nichols E, McAvoy S, **Vyfhuis M**. Adjuvant proton therapy for breast cancer treatment: Why black women may derive a greater benefit from this treatment modality, ARS, Maui, HI, 2023
8. Allen A, Savla B, Datnow-Martinez C, Mendes W, Kamran S, Ambs S, Eggleston C, Baker K, Molitoris JK, Ferris MJ, Patel AN,Rana ZH, Kunaprayoon D, Hong J, Davicioni E, Mishra MV, Bentzen SB, Kwok Y, Tran P**, Vyfhuis M**, A Precision Medicine Navigator Can Mitigate Inequities Associated with Utilization of Genomic Tests in Black Men with Prostate Cancer, ASTRO, San Diego, CA, 2023 (Won the Resident Clinical Research Award)