

Department of Radiation Oncology

Monthly Research Update: May 2024

2024 Seed Grant Awards Announced

MAY AT A GLANCE TOTALS

Clinical trials	
Total enrolled	35
GCC, other	7
NRG, NCI, co-ops	4
PCG, other registries	24
Grants and contracts	
New awards	0
Submitted	2
Articles published	12

On June 4 the 2024 Department of Radiation Oncology Seed Grant Awards were announced by the Executive Academic and Advisory Council (EAAC). Awardees were **Melissa Vyfhuis, MD, PhD**, associate professor, for “Practical clinical interventions to help improve cancer care for patients who live in food priority areas or food deserts” (\$50,000), and **Matthew Brown, MD**, medical resident, for “Optimizing hybrid applicator brachytherapy for treatment of advanced cervical cancer with use of machine learning” (\$15,000).

The Seed Grant program was initiated more than a decade ago by the EAAC to support collaborative research within our department and promising outside collaborations that provide preliminary and other data to enhance the pursuit of external funding for continued research. The award term is 1–2 years, with terms beginning on July 1 and ending on June 30. Eligible applicants include any full-time faculty member or resident (partnered with a faculty member) in the Department of Radiation Oncology. Collaborations between department divisions, with other University of Maryland System faculty, or with industry (with matching funds or in-kind support) are encouraged but not required.

Welcome Summer Medical Student Fellows:

William (Hurley) Ryan, MS 1, whose project will focus on pancreatic cancer and whose faculty mentor is Hem Shukla, PhD; **Sarayu Sai Valluri, MS1**, who will work on the “Effect of ionizing radiation on RBC dysfunction and erythropoiesis in a C57BL/6J” with mentors Erika Davies, PhD, and Paul Buehler, PharmD, PhD; and **Njambi Kiguru, MS1** (cosponsored by PRISM), who will work on “Comparing toxicity effects of partial vs. whole gland high dose rate brachytherapy for recurrent prostate cancer in the “salvage” setting” with mentor Jason Molitoris, MD, PhD.

Clinical Trial Enrollment

- 23 patients at MPTC on the **Proton Collaborative Group Registry**
- 1 patient at MPTC on the **DTT HUD**
- 1 patient at UMMC and 1 at Shore on **NRG GU009**: Parallel phase III randomized trials for high-risk prostate cancer evaluating deintensification for lower genomic risk and intensification of concurrent therapy for higher genomic risk with radiation (Predict-RT)
- 3 patients at UMMC on **GCC 2380**: A single arm phase II trial evaluating selective adjuvant therapy for HPV-mediated oropharynx SCCs based on residual circulating tumor DNA levels (SAVAL)
- 2 patients at Shore on **NRG GU010**: Parallel phase III randomized trials of genomic risk stratified unfavorable intermediate risk prostate cancer: De-intensification and intensification clinical trial evaluation (guidance)
- 1 patient at UMMC on **GCC 23100**: A randomized trial of high-risk metachronous oligometastatic prostate cancer with high-risk mutations treated with metastasis directed therapy and niraparib/abiraterone and prednisone (KNIGHTS)
- 1 patient at UMMC and 1 at MPTC on **GCC2032**: Phase 1 feasibility study of strength training with androgen deprivation and proton therapy for patients with prostate cancer
- 1 patient at UCH on **GCC 1926**: Phase Ib dose escalation of single-fraction preoperative stereotactic partial-breast irradiation for early-stage breast cancer

Information for this monthly update should be provided no later than the second Wednesday of each month to Miek Segers at msegers@som.umaryland.edu. The update will be published on the second Friday of each month.

Have questions about identifying a funding source? Finding research partners across the UMB/UM campuses or at another university? Defining future research strategies? Or organizing your thoughts on (virtual) paper? Contact Nancy Knight, PhD, Director of Academic and Professional Development for the department, at nknight@umm.edu

Grants and Contracts

Submitted

- **Byong Yi, PhD**, Partnering PI with Wearabledose Inc., on DoD Breakthrough Award Level 2 (HT942524BCRPBTA12), “Real-time treatment monitoring of breast radiosurgery using wearable cup” (\$977,149).
- **Phuoc Tran, MD, PhD**, PI, PI UMB, sub with Rutgers University on Prostate Cancer Foundation Challenge Award, “Development and validation of blood, tissue, and radiographic markers of response to metastasis directed therapy in oligometastatic castration-sensitive prostate cancer” (\$333,332).

Articles Published

Entered into PubMed May 9–June 13. Titles link to PubMed abstracts, many of which contain full-text links.

1. **Alexander GS, Krc RF, Assif JW, Sun K, Molitoris JK, Tran P, Rana Z, Mishra MV.** Conditional risk and predictive factors associated with late toxicity for prostate cancer patients treated with external beam radiotherapy alone on randomized trial RTOG 0126. *Int J Radiat Oncol Biol Phys.* 2024 May 31:S0360-3016(24)00686-2. Ahead of print.
2. **Bentzen SM,** Vogelius IR, Hodgson D, Howell R, Jackson A, Hua CH, Olch AJ, Ronckers C, Kremer L, Milano M, Marks LB, Constone LS. Radiation dose-volume-response relationships for adverse events in childhood cancer survivors: Introduction to the scientific issues in PENTEC. *Int J Radiat Oncol Biol Phys.* 2024 Jun 1;119(2):338–353.
3. Chen M, **Wang K,** Dohopolski M, Morgan H, Sher D, Wang J. TransAnaNet: Transformer-based anatomy change prediction network for head and neck cancer patient radiotherapy. *ArXiv [Preprint].* 2024 May 23:arXiv:2405.05674v2.
4. Chen M, **Wang K,** Wang J. Advancing head and neck cancer survival prediction via multi-label learning and deep model interpretation. *ArXiv [Preprint].* 2024 May 9:arXiv:2405.05488v1.
5. Constone LS, Olch AJ, Marks LB, Jackson A, **Bentzen SM.** PENTEC dedication and acknowledgments. *Int J Radiat Oncol Biol Phys.* 2024 Jun 1;119(2):315.
6. Hahn EA, Pugh SL, Lu HL, Vela AM, Gillespie EF, **Nichols EM,** Wright JL, MacDonald SM, Cahlon O, Baas C, Braunstein LZ, Fang LC, Freedman GM, Jimenez RB, Kesslering CM, **Mishra MV,** Mutter RW, Ohri N, Rosen LR, Urbanic JJ, Jagsi R, Mitchell SA, Bekelman JE, Cella D; RadComp Consortium. Validation of patient-reported outcomes in patients with nonmetastatic breast cancer receiving comprehensive nodal irradiation in the RadComp trial. *Int J Radiat Oncol Biol Phys.* 2024 May 13:S0360-3016(24)00436-X. Ahead of print.
7. Jackson A, Hua CH, Olch A, Yorke ED, Rancati T, Milano MT, Constone LS, Marks LB, **Bentzen SM.** Reporting standards for complication studies of radiation therapy for pediatric cancer: Lessons from PENTEC. *Int J Radiat Oncol Biol Phys.* 2024 Jun 1;119(2):697–707.
8. **Krc R, Mendes W, Molitoris J, Ferris M, Song Y, Shetty A,** Mehra R, Papadimitriou JC, Hatten K, Taylor R, Wolf J, **Sun K, Bentzen S, Regine W, Tran P,** Witek M. Proton therapy re-irradiation outcomes and genomic landscape of patients with recurrent head and neck cancer. *Oral Oncol.* 2024 Jun 1;154:106875. Ahead of print.
9. Onal C, Guler OC, Erpolat P, Hurmuz P, Sutera P, Deek MP, Elmali A, Yilmaz MT, Koken UH, Yavuz M, Ozyigit G, **Tran PT.** Evaluation of treatment outcomes of prostate cancer patients with lymph node metastasis treated with definitive radiotherapy: Comparative analysis of PSMA PET/CT and conventional imaging. *Clin Nucl Med.* 2024 Jun 3. Ahead of print.
10. Saeed AM, **Bentzen SM,** Ahmad H, Pham L, Woodworth GF, **Mishra MV.** Correction: Systematic review and pooled analysis of the impact of treatment-induced lymphopenia on survival of glioblastoma patients. *Radiat Oncol.* 2024 May 15;19(1):58.
11. Sutera P, Deek MP, Deek RA, Guler OC, Hurmuz P, Reyhan M, Rowe S, Radwan N, Dipasquale S, Hrinivich WT, Lowe K, **Ren L,** Saraiya B, Ennis R, Hathout L, Mayer T, Dewese TL, Song DY, Kiess A, Oymak E, Pienta K, Feng F, Pomper M, Ozyigit G, **Tran PT,** Onal C, Phillips RM. Prostate-specific membrane antigen PET response associates with metastasis-free survival after stereotactic ablative radiation in oligometastatic prostate cancer. *Adv Radiat Oncol.* 2024 Apr 13;9(7):101507.
12. **Vicente EM,** Grande Gutierrez N, Oakes JM, **Cammin J, Gopal A,** Kipritidis J, **Modiri A, Mossahebi S,** Mohindra P, **Citron WK,** Matuszak MM, Timmerman R, **Sawant A.** Integrating local and distant radiation-induced lung injury: Development and validation of a predictive model for ventilation loss. *Med Phys.* 2024 May 31. Ahead of print.

Important Dates for Upcoming Funding Submissions

Below is an updated calendar with firm due dates for upcoming major NIH deadlines (RFA/PA dates may differ). Contact the Department Office of Research Administration (msegers@som.umaryland.edu) ASAP if you plan to submit any funding proposal, regardless of funder.

NIH deadline	DORA budget, prelim materials	Dean/SOM prelim materials	FINAL Dean/SOM/SPA
R01/U01 Resub July 5	06/20/24	06/25/24	06/27/24
R21 Resub July 16	07/01/24	07/05/24	07/09/24