

# Department of Radiation Oncology

## Monthly Research Update: March 2024

### Maryland at AACR 2024

Members of the Department of Radiation Oncology participated in multiple sessions at the American Association for Cancer Research 2024 meeting in San Diego, CA, April 5–10. **Phuoc T. Tran, MD, PhD**, chaired a session titled “Genomic instability and metastasis: Dangerous liaisons or 2 sides of the same coin?” Other AACR presentations by and including department members were:

- TNIK induced chemoradiation resistance in small cell lung cancer.
- Investigating the roles of EMT in small cell lung cancer tumorigenesis and chemoradiation response.
- Modeling *Twist1* overexpression in a pancreatic ductal adenocarcinoma mouse model.
- ZNF1 is a master regulator and tumor suppressor in epigenetically induced pathogen mimicry, mitochondrial dysfunction and STING-dependent signaling in cancer.
- TWIST1-induced suppression of oncogene-induced senescence in non-small cell lung cancer requires the transactivation domain of TWIST1.
- Investigating the role of TNIK in the pathogenesis of lung squamous cell carcinoma

**Reminder: Department of Radiation Oncology Seed Grant applications due April 17:** Application forms are available from [nknight@umm.edu](mailto:nknight@umm.edu).

**Reminder: ROBIN Pilot Research Grants due April 30:** ROBIN OligoMET Collaborative Pilot Project Grants. Contact [jadynstewart@som.umaryland.edu](mailto:jadynstewart@som.umaryland.edu) for more information.

### MARCH AT A GLANCE TOTALS

#### Clinical trials

Total enrolled	35
GCC, other	5
NRG, NCI, co-ops	3
PCG, other registries	27

#### Grants and contracts

New awards	0
Submitted	7

#### Articles published

5

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](mailto: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](mailto:nknight@umm.edu)

### Clinical Trial Enrollment

- 25 patients at MPTC on the **Proton Collaborative Group Registry**
- 1 patient at MPTC on the **DTT HUD**
- 1 patient at MPTC on the **PPCR Peds Registry**
- 1 patient at BWMC 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)
- 1 patient at UMMC on **GCC 20138**: Laser interstitial thermal therapy followed by hypofractionated radiation therapy for treatment of newly diagnosed high-grade gliomas
- 1 patient at BWMC and 1 at CMRO on **NRG BR007**: A phase III clinical trial evaluating de-escalation of breast radiation (DEBRA) for conservative treatment of stage I, hormone sensitive, HER2-negative, oncotype recurrence score  $\leq 18$  breast cancer
- 1 patient at BWMC on **GCC 1944**: A preference option randomized design trial of two standard dose fractionation regimens for adjuvant vaginal brachytherapy in early-stage endometrial cancer
- 1 patient 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)
- 1 patient at MPTC on **GCC 15100** RADCOMP: Pragmatic phase III randomized trial of proton vs. photon therapy for patients with non-metastatic breast cancer: A Radiotherapy Comparative Effectiveness (RADCOMP) consortium trial
- 1 patient at MPTC on **GCC 2242**: Hybrid virtual-MRI/CBCT for image guidance in liver radiation therapy

## Grants and Contracts

### Submitted

- **Phuoc Tran, MD PhD, PI**, NOT-CA-24-015, NIH U54-CA273956, “Administrative supplement to support the development of digital twins in radiation oncology (DTRO) under ROBIN Oligomet U54-CA273956” (\$250,000).
- **Phuoc Tran, MD PhD, PI** UMB, sub Weill Cornell Medicine, NIH R01 PA-20-185, “Genomic determinants of metastatic organotropism in prostate cancer” (\$1,282,875).
- **Hem Shukla, PhD, PI**. American Cancer Society. Research Scholar Grant, “Patient-derived pancreatic cancer organoids as a personalized clinical model to understand therapy resistance” (\$946,000).
- **Melissa Vyfhuis, MD, PhD, PI**. American Cancer Society. Research Scholar Grant, “Practical interventions to improve cancer care for patients who live in food deserts” (\$946,000).
- **Dario Rodrigues, PhD, PI**. Ivy Foundation, Translational Adult Glioma Grant Award 2024, “Preclinical validation of MR-guided hyperthermia applicator for noninvasive treatment of brain tumors” (\$600,000).
- **Erika Davies, PhD, PI**. Synedgen Inc. BARDA (Prime), BAA-18-100-SOL-00004, “Advanced development of MIIST305 to reduce mortality and morbidity after exposure to lethal ionizing radiation” (\$28,478,402).
- **Yannick Poirier, PhD, PI**. NIH/NIAID. NIAID-NIH-RFP-75N93023R0002, “RNCP portfolio-wide dosimetry verification services”. (\$3,805,969).

## Articles Published

Entered into PubMed March 7–April 11. Titles link to PubMed abstracts, many of which contain full-text links.

1. Deek MP, Sutera P, Jing Y, Gao R, Rothman E, Day H, Chang D, Dirix P, Armstrong AJ, Campbell B, Campos FL, Berenguer M, Ramotar M, Conde-Moreno A, Berlin A, Bosetti DG, Corcoran N, Koontz B, Mercier C, Siva S, Pryor D, Ost P, Huynh MA, Kroeze S, Stish B, Kiess A, Trock B, **Tran PT**, Gillissen S, Sweeney C. [Multi-institutional analysis of metastasis-directed therapy with or without androgen deprivation therapy in oligometastatic castration-sensitive prostate cancer.](#) *Eur Urol Oncol.* 2024 Apr 2:S2588-9311(24)00086-5. Online ahead of print.
2. Lang Y, Jiang Z, Sun L, Xiang L, **Ren L**. [Hybrid-supervised deep learning for domain transfer 3D protoacoustic image reconstruction.](#) *Phys Med Biol.* 2024 Apr 3;69(8).
3. Mell LK, Pugh SL, Jones CU, Nelson TJ, Zakeri K, Rose BS, Zeitzer KL, Gore EM, Bahary JP, Souhami L, Michalski JM, Hartford AC, **Mishra MV**, Roach M 3rd, Parliament MB, Choi KN, Pisansky TM, Husain SM, Malone SC, Horwitz EM, Feng F. [Effects of androgen deprivation therapy on prostate cancer outcomes according to competing event risk: Secondary analysis of a phase 3 randomised trial.](#) *Eur Urol.* 2024 Apr;85(4):373–381.
4. Saeed AM, **Bentzen SM**, Ahmad H, Pham L, Woodworth GF, **Mishra MV**. [Systematic review and pooled analysis of the impact of treatment-induced lymphopenia on survival of glioblastoma patients.](#) *Radiat Oncol.* 2024 Mar 14;19(1):36.
5. Stern W, Parham A, Berbeco R, DeWerd LA, Kamen J, MacKenzie C, Moros EG, **Poirier Y**, Potter CA, Schaeue D, Patallo IS, Abend M, Swarts S, Trompier F. [Recommendations for harmonized reporting of radiation dosimetry by adoption of Compatibility in Irradiation Research Protocols Expert Roundtable \(CIRPER\).](#) *Int J Radiat Biol.* 2024 Apr 3:1-3. Online ahead of print.

## Important Dates for Upcoming Funding Submissions

Below is an updated calendar with firm due dates for upcoming major NIH deadlines (individual RFA/PA dates may differ). Contact the Department Office of Research Administration (DORA) ([msegers@som.umaryland.edu](mailto:msegers@som.umaryland.edu)) ASAP if you plan to submit any funding proposal, regardless of funder. Failure to meet these deadlines may result in delaying your submission until the next cycle (if available).

NIH deadline	DORA budget, prelim materials	Dean/SOM prelim materials	FINAL Dean/SOM/SPA
R01/U01 New June 5	05/23/24	05/28/24 (11 AM at ORD)	05/29/24
R21 New June 16	06/03/24	06/06/24	06/10/24
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