

Department of Radiation Oncology

Monthly Research Update: September 2023

Maryland at ASTRO 2023

SEPTEMBER AT A GLANCE TOTALS

Clinical trials

Total enrolled	34
GCC, other	5
NRG, NCI, co-ops	4
PCG Registry	25

Grants and contracts

New awards	1
Submitted	4

Articles published

11

Maryland was well represented at the 2023 Annual Meeting of the American Society for Radiation Oncology (ASTRO), held October 1–4 in San Diego, CA. The theme of this year's meeting was Pay It Forward: Partnering with Our Patients. Faculty members, residents, postdoctoral students, and others from the Maryland Department of Radiation Oncology made more than 35 presentations. These included podium and poster presentations of scientific research, as well as invited lectures and service as session moderators and on discussion panels. A highlight of the meeting was the department Welcome Dinner Reception on the evening of October 1 at the San Diego Wine and Culinary Center.

Phuoc Tran, MD, PhD, was recognized by ASTRO with its 2023 Mentorship Award. Two residents received awards: **Alexander Allen, MD**, with the Resident Clinical/Basic Science Research Award, and **Hua-Ren Cherng, MD**, with the Resident Recognition Award/Poster Viewing. Remarkably, 2 of the presentations selected from >2,000 for the ASTRO media webcast were associated with work from our department: **Søren Bentzen, PhD, DMSc**, for "Randomized controlled trial of hypofractionated vs. normo-fractionated accelerated radiation therapy with or without cisplatin for locally advanced head and neck squamous cell carcinoma (HYPNO)," and **Dr. Allen** for "A precision medicine navigator can mitigate inequities associated with utilization of genomic tests in Black men with prostate cancer."

Preliminary planning for 2024 ASTRO presentations has already begun. The meeting will be held September 29–October 2 in Washington, DC.

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

Clinical Trial Enrollment

- 25 patients at MPTC on the **PCG Registry**
- 1 patient at MPTC on the **Deep Thermal Therapy HUD**
- 2 patients at BWMC on **NRG GU009**: Parallel phase III randomized trials for high-risk prostate cancer evaluating de-intensification for lower genomic risk and intensification of concurrent therapy for higher genomic risk with radiation.
- 1 patient at MPTC on **GCC21136**: Phase 2 randomized total eradication of metastatic lesions following definitive radiation to the prostate in de novo oligometastatic prostate cancer (TERPS) trial.
- 1 patient at BWMC on **GCC1944**: Vaginal cuff, a randomized phase III trial of two standard dose fractionation regimens for adjuvant vaginal brachytherapy in early-stage endometrial cancer.
- 1 patient at MPTC on **GCC19140**: Pilot study of laser interstitial thermal therapy followed by hypofractionated radiation therapy for recurrent high-grade gliomas.
- 1 patient at UMMC on **NRG-BN012**: A randomized phase III trial of pre-operative compared to post-operative stereotactic radiosurgery in patients with resectable brain metastases.
- 1 patient at UMMC on **NRG BN009**: Phase III trial of stereotactic radiosurgery (SRS) or hippocampal-avoidant whole brain radiotherapy (HA-WBRT) for distant brain relapse with brain metastasis velocity ≥ 4 brain metastases/year.
- 1 patient at MPTC on **GCC 2242**: Hybrid virtual-MRI/CBCT for image guidance in liver radiation therapy.

Grants and Contracts

Awarded

- **Erika Davies, PhD, PI**, from the HHS/BARDA Nonclinical Development Radiological and Nuclear Network (RTOR RADNUC 2201) for “Performance verification of institutional radiation dose response for acute radiation syndrome (ARS) animal models” for \$3,549,010 (September 2023–September 2024).

Submitted

- **Erika Davis, PhD, PI/PD**, subaward with CMTx Biotech, Inc. to NIH PA-23-232 Small Business Technology Transfer Grant Applications (Parent STTR[R41/R42]) for “Novel small molecule for the treatment of acute radiation syndrome” (\$346,409).
- **France Carrier, PhD/Erika Davies, PhD (Multi-PI)**, to NIH/NIAID Sex Differences in Radiation Research: Models, Underlying Pathways, Biomarkers of Injury, and Medical Countermeasure Responses (U01) for “Investigating sex difference responses to acute and delayed effects of radiation exposures in mice” (\$1,620,992).
- **Lei Ren, PhD, PI/PD**, lead Dosimetry Core, Co-lead, Research Project 2, sub with University of California, Irvine, on NIH/NCI PAR-23-059 Project Applications for the Years 2023, 2024, and 2025 for “In vivo dosimetry and image-guided precision radiotherapy” (\$2,554,780).
- **Phuoc Tran, MD, PhD, PI/PD**, subaward with Johns Hopkins University for NIH PA-20-185 “TNIK-induced radioresistance in squamous cell lung cancer” (R01) (\$1,923,280).

Articles Published

Entered into PubMed September 9–October 10. Titles link to PubMed abstracts, with full-text links.

1. **Alexander GS, Krc RF, Assif JW, Sun K, Molitoris JK, Tran P, Rana Z, Bentzen SM, Mishra MV**. [Conditional risks of biochemical failure and prostate cancer-specific death in patients undergoing external beam radiotherapy: A secondary analysis of 2 randomized clinical trials](#). *JAMA Netw Open*. 2023 Sep 5;6(9):e2335069.
2. **Alexander GS, Pollock AE, Arons D, Ferris MJ, Molitoris JK, Regine WF, Witek ME**. [Post-treatment PET/CT for p16-positive oropharynx cancer treated with definitive proton therapy](#). *J Clin Imaging Sci*. 2023 Sep 29;13:31.
3. Casey DL, Vogelius IR, Brodin NP, Roberts KB, Avanzo M, Moni J, Owens C, Ronckers CM, Constone LS, **Bentzen SM**, Olch A. [Risk of subsequent neoplasms in childhood cancer survivors after radiation therapy: A comprehensive PENTEC review](#). *Int J Radiat Oncol Biol Phys*. 2023 Sep 29:S0360-3016(23)07685-X. Online ahead of print.
4. Deek MP, **Tran PT**, Jabbour SK. [Metastasis-directed therapy: A moving target advancing progress forward](#). *J Clin Oncol*. 2023 Sep 25;JCO2301274. Online ahead of print.
5. Hoang T, Sutura P, **Nguyen T**, Chang J, **Jagtap S**, Song Y, **Shetty AC**, Chowdhury DD, Chan A, **Carrieri FA**, Hathout L, Ennis R, Jabbour SK, Parikh R, **Molitoris J**, Song DY, DeWeese T, Marchionni L, **Ren L**, **Sawant A**, Simone N, **Lafargue A**, Van Der Eecken K, Bunz F, Ost P, **Tran PT**, Deek MP. [TP53 structure-function relationships in metastatic castrate-sensitive prostate cancer and the impact of APR-246 treatment](#). *Prostate*. 2023 Oct 9. Online ahead of print.
6. Kathari YK, Ahmad H, Kallen ME, Koka R, Omili D, Iraguha T, Clement J, Pham L, Khalid M, Fan X, Gebru E, Lesho P, Park E, Dishanthan N, Baker JM, Dietze KA, **Hankey KG**, Badros A, Yared JA, Dahiya S, Hardy NM, Kocoglu H, Luetkens T, Rapoport AP, Atanackovic D. [Immune-mediated facial nerve paralysis in a myeloma patient post B-cell maturation antigen-targeted chimeric antigen receptor T cells](#). *Haematologica*. 2023 Sep 7. Online ahead of print.
7. Prabhu RS, Akinyelu T, Vaslow ZK, Matsui JK, Haghghi N, Dan T, **Mishra MV**, Murphy ES, Boyles S, Perlow HK, Palmer JD, Udovicich C, Patel TR, Wardak Z, Woodworth GF, Ksendzovsky A, Yang K, Chao ST, Asher AL, Burri SH. [Single fraction vs. fractionated preoperative radiosurgery for resected brain metastases: A PROPS-BM international multicenter cohort study](#). *Int J Radiat Oncol Biol Phys*. 2023 Sep 15:S0360-3016(23)07924-5. Online ahead of print.
8. Sheikh E, Agrawal K, **Roy S**, Burk D, Donnarumma F, Ko YH, Guttula PK, **Biswal NC**, **Shukla HD**, Gartia MR. [Multimodal imaging of pancreatic cancer microenvironment in response to an antiglycolytic drug](#). *Adv Healthc Mater*. 2023 Sep 14:e2301815. Online ahead of print.
9. Trompier F, DeWerd LA, **Poirier Y**, Dos Santos M, Sheng K, Kunugi KA, Winters TA, DiCarlo AL, Satyamitra M. [Commentary: Minimum reporting standards should be expected for preclinical radiobiology irradiators and dosimetry in the published literature](#). *Int J Radiat Biol*. 2023 Sep 11:1-6. Online ahead of print.
10. Tu KJ, **Roy SK**, Keepers Z, Gartia MR, **Shukla HD**, **Biswal NC**. [Docetaxel radiosensitizes castration resistant prostate cancer by downregulating CAV-1](#). *Int J Radiat Biol*. 2023 Sep 25:1-13. Online ahead of print.
11. Voong KR, Illei PB, Presson B, Singh D, Zeng Z, Lanis M, Hales RK, Hu C, **Tran PT**, Georgiades C, Lin CT, Thiboutout J, Brahmer JR, Forde PM, Naidoo J, Anagnostou V, Smith KN. [Ablative radiation alone in stage I lung cancer produces an adaptive systemic immune response: insights from a prospective study](#). *J Immunother Cancer*. 2023 Oct;11(10):e007188.