

# Department of Radiation Oncology

## Monthly Research Update: April 2022

### Medical Student Research in RadOnc

#### APRIL AT A GLANCE TOTALS

##### Clinical trials

|                  |    |
|------------------|----|
| Total enrolled   | 39 |
| GCC, other       | 14 |
| NRG, NCI, co-ops | 1  |
| PCG Registry     | 24 |

##### Grants and contracts

|            |   |
|------------|---|
| New awards | 1 |
| Submitted  | 3 |

|                    |    |
|--------------------|----|
| Articles published | 12 |
|--------------------|----|

Each year the Department of Radiation Oncology sponsors both summer research fellowships and graduation awards for UMSOM students. These efforts are supported by the Endowment Fund for Academic Excellence in Radiation Oncology and by the generous participation of our faculty mentors. The program is directed by Pranshu Mohindra, MD, MBBS, as part of his roles as Director of Research Internships and Medical Student Elective Course Director.

Research by medical students in the department continued during the pandemic, and for Summer 2022 we are welcoming 4 students on a hybrid schedule. The program is closely coordinated with the UMSOM Office of Student Research (OSR), which this year has awarded 2 of the students with PRISM support: Gurbani Singh, who will work with Melissa Vyfhuis, MD, PhD, and Alanna Stefano, who will work with Jason Molitoris, MD, PhD. In addition, Crystal Li will be mentored by Zaker Rana, MD, and Amari Parham will be mentored by Elizabeth Nichols, MD.

The Department of Radiation Oncology Executive Academic and Advisory Council recognized Melanie Berger, a 2022 UMSOM graduate, with the annual Radiation Oncology Graduation Award. The \$2,500 award honors a senior medical student who has shown excellence in work in radiation oncology and demonstrated a sustained interest during medical school. Dahlia Kronfli, also a 2022 UMSOM graduate, was presented with the Radiation Oncology Research Scholarship award. The \$2,000 award recognizes her outstanding achievements on a number of research projects, including first authorship on an article on racial and socioeconomic disparities in radiation treatment, appearing in the April 28 issue of the *International Journal of Radiation Oncology, Biology, Physics*.

### Clinical Trial Enrollment

- 24 patients enrolled at MPTC on the **PCG Registry**.
- 3 patients enrolled at MPTC on the **Deep Thermal Therapy HUD**.
- 1 patient enrolled at UCH and 1 at MPTC on **GCC 20110**: A single-arm, single-stage phase II trial of Selective Avoidance of nodal VolumEs at minimal Risk (SAVER) in the contralateral neck of patients with p16-positive oropharynx cancer.
- 5 patients enrolled at MPTC on **GCC 19146**: Comparison and verification of radiation planning for pencil beam scanning proton therapy using single energy and dual energy computed tomography simulation methods.
- 1 patient enrolled at UMMC on **NRG BN009**: Phase III trial of salvage stereotactic radiosurgery (SRS) or SRS + hippocampal-avoidant whole brain radiotherapy (HA-WBRT) for first or second distant brain relapse after upfront SRS with brain metastasis velocity  $\geq 4$  brain metastases/year.
- 1 patient enrolled at UMMC on **GCC 1635**: Investigating radiation-induced injury to airways and pulmonary vasculature in lung stereotactic ablative body radiotherapy (SAbR).
- 1 patient enrolled at MPTC on **GCC 2073**: The Upfront Approach: A phase 2 study of upfront intensity modulated proton beam therapy (IMPT) and concurrent chemotherapy for post-operative treatment in loco-regionally advanced endometrial cancer.
- 2 patients enrolled at MPTC on **GCC 1886**: Phase I study of concurrent Nab-paclitaxel + gemcitabine with hypofractionated, ablative proton therapy for locally advanced pancreatic 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](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)

## Grants and Contracts

**Funded:** **Phuoc T. Tran, MD, PhD (PI)**, from the Johns Hopkins University, subaward on U01CA212007, for “Integrating bioinformatics into multiscale models for hepatocellular carcinoma” (\$41,392).

**Submitted:**

- **Dario Rodrigues, PhD (PI)**, subaward with MAE Group LLC/Thomas Jefferson University under prime NIH STTR Phase II application, for “Tumor bed implant for simultaneous heat and radiation of resectable brain tumors” (\$111,243).
- **Phuoc T. Tran, MD, PhD (PI/PD lead)**, to the National Cancer Institute, for “Tumor-barcoding coupled with high-throughput sequencing for quantitative radiogenomics of the abscopal response in NSCLC,” (R01 CA271540 A1) (\$3,514,881).
- **Phuoc T. Tran, MD, PhD (PI/PD lead)**, to the National Cancer Institute, for “Transcriptomic signatures to direct postoperative treatment of prostate cancer after biochemical failure” (R01 CA271445 A1) (\$3,355,108).

## Articles Published

Entered into PubMed April 8–May 11. Titles link to PubMed abstracts, where full-text links are available.

1. Atanackovic D, Luetkens T, Omili D,...**Hankey KG**,...Dahiya S. [Vaccine-induced T cells against Sars-Cov-2 and its Omicron variant in B cell-depleted lymphoma patients after CART](#). *Blood*. 2022 May 10:blood.2022016175.
2. **Guerrero M, Yao W**, Lin M, **Becker SJ, Molitoris JK, Vedam S, Yi B**. [Validation of a commercial software dose calculation for Y-90 microspheres](#). *Brachytherapy*. 2022 May 7:S1538-4721(22)00043-5. Online ahead of print.
3. Kronfli D, **Savla B**, Lievers A, **Baker K, Eggleston C**, Miller R, **Bentzen SM, Mohindra P, Vyfhuys MAL**. [Identifying psychosocial needs of cancer patients undergoing curative radiation therapy in an inner-city academic center to address racial disparities](#). *Int J Radiat Oncol Biol Phys*. 2022 Apr 28:S0360-3016(22)00315-7.
4. Lu K, **Ren L**, Yin FF. [A geometry-guided multi-beamlet deep learning technique for CT reconstruction](#). *Biomed Phys Eng Express*. 2022 May 5. Online ahead of print.
5. **Poirier Y, Xu J, Mossahebi S**, Therriault-Proulx F, **Sawant A**. [Technical note: Characterization and practical applications of a novel plastic scintillator for online dosimetry for an ultrahigh dose rate \(FLASH\)](#). *Med Phys*. 2022 Apr 24. Online ahead of print.
6. Reyes DK, Trock BJ, **Tran PT**, Pavlovich CP, Deville C, Allaf ME, Greco SC, Song DY, Bivalacqua TJ, Han M, Partin AW, Sartor AO, Rowe SP, Pienta KJ. [Interim analysis of companion, prospective, phase II, clinical trials assessing the efficacy and safety of multi-modal total eradication therapy in men with synchronous oligometastatic prostate cancer](#). *Med Oncol*. 2022 Apr 28;39(5):63.
7. Saharia KK, Husson JS, Niederhaus SV,...**Hankey K**,...Atanackovic D. [Humoral immunity against SARS-CoV-2 variants including omicron in solid organ transplant recipients after three doses of a COVID-19 mRNA vaccine](#). *Clin Transl Immunology*. 2022 Apr 29;11(5):e1391.
8. **Siddiqui OM, Savla B**, Chowdhary M, **McAvoy S, Mishra M**. [From beaming cancer to beaming parent: Paternity leave experiences in radiation oncology](#). *Int J Radiat Oncol Biol Phys*. 2022 Apr 29:S0360-3016(22)00359-5. Online ahead of print.
9. Stick LB, Jensen MF, **Bentzen SM**, Kamby C, Lundgaard AY, Maraldo MV, Offersen BV, Yu J, Vogelius IR. [Radiation-induced toxicity risks in photon versus proton therapy for synchronous bilateral breast cancer](#). *Int J Part Ther*. 2021 Nov 11;8(4):1-13.
10. Tu K, Lee S, **Roy S, Sawant A, Shukla H**. [Dysregulated epigenetics of chordoma: Prognostic markers and therapeutic targets](#). *Curr Cancer Drug Targets*. 2022 Apr 19. Online ahead of print.
11. Yasmeen G, **Rahman S**, Gelatt J. Risk and challenge of telemedicine implementation during a pandemic. *SAM Adv Manag J*. 2021;86(4):46-57.
12. **Witek ME**, Kimple RJ, Avey GD, Burr AR, Chandereng T, Yu M, Hu R, Wieland AM, Labby ZE, Bruce JY, Brower JV, Hartig GK, Harari PM. [Prospective study of PET/MRI tumor response during chemoradiotherapy for patients with low-risk and intermediate-risk p16-positive oropharynx cancer](#). *Am J Clin Oncol*. 2022 May 1;45(5):202-207.

## 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 new 06/5/22    | 05/23/22                      | 05/26/22                  | 05/30/22           |
| R21 new 06/16/22   | 06/03/22                      | 06/07/22                  | 06/09/22           |
| R01 resub 07/5/22  | 06/20/22                      | 06/23/22                  | 06/27/22           |
| R21 resub 07/16/22 | 07/01/22                      | 07/07/22                  | 07/11/22           |