

Department of Radiation Oncology

Monthly Research Update: June 2023

RadOnc Medical Resident Research Awards

Annual research awards were given to Department of Radiation Oncology medical residents on June 22 at a dinner honoring this year's graduates: Gregory Alexander, MD, Justin Cohen, MD, and Ariel Pollock, MD. The first Dr. Sally Cheston Award for Excellence in Clinical Care was presented to Dr. Pollock by Dr. Cheston. Dr. Pollock was also recognized with the Medical Resident Article of the Year award as lead author of "Gross tumor volume margin and local control in p16-positive oropharynx cancer patients treated with intensity-modulated proton therapy" (*Head Neck*. 2023;45[5]:1088–1096). Dr. Alexander received the Annual Radiological Society of North America Roentgen Resident Award, which allows residency program directors and department chairs across the U.S. and Canada to reward outstanding residents and fellows who have advanced research through publications, presentations, or other contributions. Current PGY-3 resident Muhammad Hamza, MD, received the Outstanding Achievement in Clinical Research Award for exceptional work in patient enrollment in radiation oncology clinical trials.

"We are committed to ensuring that our medical residents are actively involved in all aspects of clinical research and that they have access to the extraordinary level of supporting translational and physics research expertise available in our department," said Sarah McAvoy, MD, Radiation Oncology Vice Chair for Education. "I want to congratulate the graduating residents and welcome our new PGY-2 residents: Adeniyi Olabumuyi, MBBS, Austin Thompson, MD, and Reza Zarinshenas, MD."

Clinical Trial Enrollment

- 24 patients at MPTC on the **PCG Registry**
- 2 patients at MPTC on the **Deep Thermal Therapy HUD**
- 1 patient 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 at MPTC and 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 risk with radiation.
- 1 patient at BWMC and 1 patient at CMRO on **Alliance A221803**: Mepitel film for the reduction of radiation dermatitis in breast cancer patients undergoing post-mastectomy radiation therapy: A randomized phase III clinical trial.
- 1 patient enrolled at MPTC on **GCC 2032**: Phase 1 feasibility study of strength training with androgen deprivation and proton therapy for intermediate and high-risk prostate cancer.
- 1 patient enrolled at UMMC on **EA3191**: A phase II randomized trial of adjuvant therapy with pembrolizumab after resection of recurrent/second primary head and neck squamous cell carcinoma with high-risk features.
- 1 patient enrolled at CMRO and 1 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 enrolled at UCH on **GCC1926**: A phase I dose escalation study of single fraction pre-operative partial breast S-PBI for early-stage breast cancer.

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Clinical trials

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| Total enrolled | 37 |
| GCC, other | 7 |
| NRG, NCI, co-ops | 6 |
| PCG Registry | 24 |

Grants and contracts

| | |
|------------|---|
| New awards | 1 |
| Submitted | 5 |

Articles published

4

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

Funded

- **Lei Ren, PhD**, contact PI (Jerimy Polf, PhD, MPI at H3D Inc.), from NIH for “3-dimensional prompt gamma imaging for online proton beam dose verification” (R01CA279013) (5/15/23–4/30/27) (\$2,327,159).

Submitted

- **Hem Shukla, PhD**, PI, to the NIH/NCI Cancer Moonshot Scholars Diversity Program for “Patient-derived pancreatic cancer organoids as a personalized clinical model toward precision medicine” (RFA-CA-22-050) (\$1,500,000).
- **Sawant, Amit, PhD**, contact PI, and **Phuoc Tran, MD, PhD**, MPI, to the NIH/NCI Research Project Grant program for “Tumor-barcoding coupled high-throughput sequencing for quantitative radiogenomics of FLASH in lung cancer” (PA-20-185) (\$3,910,694).
- **Amit Sawant, PhD**, MPI (Mauro Tambasco, PhD, contact PI, San Diego State University), to the NIH Bioengineering Research Grant program (R01) for “A plasmid DNA chip platform for optimizing and validating radiotherapy FLASH sparing” (PAR-22-242) (\$1,517,075).
- **Lei Ren, PhD**, MPI (Bardia Yousefi, PhD, contact PI, University of Maryland College Park) to the NIH/NCI Clinical and Translational Exploratory/Developmental Studies program (R21) for “Integrated high-dimensional multimodal imaging and omics analysis to decipher early treatment assessment and failure prediction in non-small cell lung cancer” (PAR-22-216) (\$208,448).
- **Arezoo Modiri, PhD**, PI, to the Department of Defense Lung Cancer Research Program Idea Development Award program for “Imaging early surrogate for major cardiotoxicity caused by lung radiotherapy” (HT9425-23-LCRP-IDA) (\$808,882).

Articles Published

Entered into PubMed June 8–July 13. Titles link to PubMed abstracts, with full-text links.

1. Eckstein J, Choi JI, Lozano A, Ohri N, Press R, Hasan S, Kabarriti R, Chang J, Urbanic J, Durci M, Mohammed N, Stevens C, Tsai H, Apisarnthanarax S, **Regine W**, Vargas C, Nichols R Jr, Herman J, Simone CB 2nd, Chhabra A. [Proton therapy for unresectable and medically inoperable locally advanced pancreatic cancer: Results from a multi-institutional prospective registry](#). *Adv Radiat Oncol*. 2023 Apr 23;8(5):101250. eCollection 2023 Sep-Oct.
2. **Krc RF**, Singh SA, Fang W, Weir JS. [Photobiomodulation during chemoradiation for head and neck cancer: Effect on mucositis, weight loss, and feeding tube dependence](#). *Adv Radiat Oncol*. 2023 Mar 10;8(4):101216. eCollection 2023 Jul-Aug.
3. Miles D, Sforza D, Wong JW, Gabrielson K, Aziz K, Mahesh M, Coulter JB, Siddiqui I, **Tran PT**, Viswanathan AN, Rezaee M. [FLASH effects induced by orthovoltage X-rays: FLASH with x-ray tubes - an in vivo study](#). *Int J Radiat Oncol Biol Phys*. 2023 Jun 24:S0360-3016(23)00590-4. Online ahead of print.
4. Sutura P, Skinner H, Witek M, **Mishra M**, **Kwok Y**, Davicioni E, Feng F, Song D, **Nichols E**, **Tran PT**, Bergom C. [Histology specific molecular biomarkers: Ushering in a new era of precision radiation oncology](#). *Semin Radiat Oncol*. 2023 Jul;33(3):232–242.

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) 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 | 10/05/23 | 09/22/23 | 09/26/23 |
| R21 | 10/16/23 | 10/03/23 | 10/05/23 |
| R01 Resub. | 11/05/23 | 10/24/23 | 10/26/23 |
| R21 Resub. | 11/16/23 | 11/03/23 | 11/07/23 |