University of Maryland School of Medicine

Volume 9
November 10, 2023

Department of Radiation Oncology Monthly Research Update: October 2023

OCTOBER AT A GLANCE TOTALS

Clinical trials	
Total enrolled	37
GCC, other	5
NRG, NCI, co-ops	6
PCG Registry	26
Grants and contracts	
New awards	1
Submitted	2
Articles published	1

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.ed

NIH Simplified Review Framework: 2025

NIH announced in October plans for introduction of a simplified framework for peer review of most competing research project grant applications, beginning with submissions with due dates of January 25, 2025. The simplified framework is designed to: (1) enable peer reviewers to better focus on key questions about the scientific and technical merit of proposed research projects; (2) mitigate the effect of reputational bias; and (3) reduce reviewer burden by shifting policy compliance activities to NIH staff rather than reviewers.

The Simplified Framework for NIH Peer Review Criteria retains the 5 criteria (Significance, Investigators, Innovation, Approach, and Environment) familiar in current submissions but reorganizes them into 3 factors. According to NIH, "The reframing of the criteria serves to focus reviewers on 3 central questions reviewers should be evaluating: How important is the proposed research, how rigorous and feasible are the methods, and whether the investigators and institution have the expertise/resources necessary to carry out the project." The new key factors will correspond to the previous criteria: Factor 1, importance of the research (corresponding to Significance and Innovation), to be scored 1–9; Factor 2, rigor and feasibility (Approach), to be scored 1–9; and expertise and resources (Investigator and Environment), to be rated as sufficient/insufficient but not scored. The change to peer reviewer evaluation of investigator expertise and institutional resources is designed to highlight the actual work proposed and reduce the "potential for general scientific reputation to have an undue influence."

NIH is developing training events and resources for applicants, reviewers, and NIH staff. These began with an overview webinar on November 3, with support in multiple formats to be rolled out over the next year. New applicant guidance is expected in mid-2024, and reviewers will be provided with training materials in spring 2025 in time for the first review meetings of applications submitted under the new framework.

Clinical Trial Enrollment

- 26 patients at MPTC on the **PCG Registry**
- 2 patients at MPTC on the **Deep Thermal Therapy HUD**
- 2 patients at MPTC 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 (Predict-RT)
- 1 patient at MPTC and 2 at UMMC 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 **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 at BWMC on **CCTG MA.39:** TAILOR RT: A randomized trial of regional radiotherapy in biomarker low risk node and T3N0 positive breast cancer
- 1 patient 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 ≤18 breast cancer
- 1 patient at MPTC 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)

Radiation Oncology: Monthly Research Update: October 2023

Grants and Contracts

Awarded

- **Phuoc Tran, MD PhD,** PI/PD, as a subaward with NRG Oncology Foundation, Inc., from NIH U10CA180868, for "Evaluating response to moderate hypofractionation vs. SBRT in NRG GU-005 based on decipher genomic classifier integrated biomarker" ($19,858) (3/01/23–2/28/24).

Submitted

- **Lei Ren, PhD**, PI/PD, as a subaward with Emory University, to NIH/NCI PAR-20-185 for "Sample-efficient federated learning for pancreas cancer early diagnosis with model explanation guidance" (R01; $168,480).
- **Arezoo Modiri, PhD**, PI/PD, to NIH/NCI PAR-21-329 for "Improving well-being of lymphoma survivors through outcome-risk-focused treatment planning" (R01; $1,462,135).

Articles Published

Entered into PubMed October 11–November 8. Title links to PubMed abstracts, with full-text links.

1. Jiang Z, Wang S, Xu Y, Sun L, Gonzalez G, Chen Y, Wu QJ, Xiang L, **Ren L.** Radiation-induced acoustic signal denoising using a supervised deep learning framework for imaging and therapy monitoring. *Phys Med Biol.* 2023 Oct 11. Online ahead of print.

Maryland at PTCOG-NA 2023

Our department was well represented at the 9th Annual Meeting of the Particle Therapy Cooperative Group—North America (PTCOG-NA), held October 28 through 30 in Seattle, WA. Among the presentations were:

- **Zarinshenas R, Campbell P, Molitoris J,**…**Ferris M.** Superiority of proton beam therapy for a modern cohort of patients with cutaneous squamous cell carcinoma involving the parotid gland.
- **Biswal N, Zhang B, Jatczak J, Vasan S, Nichols E, Yao W.** Evidence of LET-dependent RBE on acute radiation dermatitis in Caucasian and African-American breast cancer patients undergoing proton beam therapy.
- Sabouri P, **Molitoris J,**….**Mossahebi S.** Dosimetric benefits of breath-hold technique in intensity-modulated proton therapy: Evaluating target motion mitigation and organ dose reduction.
- Sabouri P, Koroulakis A, **Cusatis D, Lehman K,** Wohlfahrt P, Shah J, **Molitoris J, Mossahebi S.** Dosimetric disparities between single-energy and dual-energy CT in breast cancer patients undergoing intensity modulated proton therapy.

Posters included:

- **Mossahebi S, Jatczak J, Zhang B, Molitoris J, Mohindra P, Yi B.** Clinical implementation of robust proton lattice planning strategy.
- Sabouri P, Koroulakis A, **Cusatis D, Lehman K,** Wohlfahrt P, Shah J, **Molitoris J, Mossahebi S.** Comparative dosimetric analysis of dual-energy CT and single-energy CT in pelvis IMPT patients: Assessing target coverage and organ dose accuracy.
- Sabouri P, Koroulakis A, **Cusatis D, Lehman K,** Wohlfahrt P, Shah J, **Molitoris J, Mossahebi S.** Quantifying dosimetric differences between SECT and DECT in brain malignancy patients undergoing IMPT: Mitigating proton range uncertainties.
- **Biswal N, Mossahebi S, Yao W, Zhang H, Regine W, Tran P, Mishra M, Kunaprayoon D,** Mohindra P, **Kwok Y, Rana Z, Ferris M**, Witek M**, Molitoris J, Nichols E, Yi B, Zakhary M.** Streamlining treatment plan evaluations on QACTs in adaptive proton radiotherapy using standardized review criteria.
- **Rana Z,** Rao M, **Redell D, Alicia D,** Mohindra P. Toxicity and outcomes from intensity modulated proton therapy for thymic malignancies.

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/U01 New Feb 5	01/23/2024	01/25/2024	01/29/2024
R21 New Feb 16	02/05/2024	02/07/2024	02/09/2024
R01/U01 Resub March 5	02/21/2024	02/23/2024	02/27/2024
R21 Resub March 16	03/05/2024	03/07/2024	03/11/2024