University of Maryland School of Medicine

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Department of Radiation Oncology Monthly Research Update: May 2023

MAY AT A GLANCE TOTALS

Clinical trials	
Total enrolled	47
GCC, other	15
NRG, NCI, co-ops	4
PCG Registry	28
Grants and contracts	
New awards	0
Submitted	2
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. 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

Annual Prado Physics & Radiobiology Review

The 20th Annual Dr. Karl Prado Physics and Radiobiology Review Course was hosted by the Department of Radiation Oncology over a distributed 3-day program (May 16, May 30, and June 2) tailored to the evolving needs of virtual learning. The 119 U.S. and international attendees included radiation oncologists, physicists, translational scientists, radiation oncology and medical physics residents, researchers, students, and veterinarians. The program, which included 13 physics and 13 radiobiology sessions, was led by course directors Amit Sawant, PhD (Physics), and France Carrier, PhD (Radiobiology). Primarily intended to offer a comprehensive review for board examinations or recertification, the course has become popular with a range of other medical radiation–related specialists. Sessions featured overviews of current concepts in radiation biology, physics, and dosimetry and were conducted in an interactive workshop format with live lectures and question-and-answer sessions.

Since 2019 the course has been named to honor Karl L. Prado, PhD (1950–2018), a key faculty member and medical physics educator in our department. Dr. Prado was dedicated to clinical program development, generous mentorship of trainees across the department's divisions, and advancing new technologies and safety protocols in radiation oncology. The Dr. Karl Prado Endowment for Radiation Oncology Trainees supports our educational mission through funding for conference attendance, publication fees, educational activities, wellness, and department educational courses.

Clinical Trial Enrollment

- 28 patients at MPTC on the **PCG Registry**
- 2 patients at MPTC on the **Deep Thermal Therapy HUD**
- 5 patients 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 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.
- 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 risk with radiation.
- 1 patient at BWMC and 1 at MPTC enrolled on **GCC 2048:** A phase I dose escalation study of hypofractionated accelerated pelvic nodal radiotherapy delivered with a simultaneously integrated prostate boost for patients with localized, intermediate- and high-risk prostate cancer.
- 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 enrolled at UCH on **GCC 15100**: Pragmatic phase III randomized trial of proton vs. photon therapy for patients with non-metastatic breast cancer: A Radiotherapy Comparative Effectiveness (Radcomp) Consortium Trial.

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Grants and Contracts

Submitted

- **Erika Davies, PhD,** PI/PD, to 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" ($16,213,297).
- **Esther Vicente, PhD,** PI/PD, to U.S. Department of Defense Lung Cancer Research Program Concept Award (HT9425-23-LCRP-CA), for "Computational fluid dynamics (CFD)-based modeling of radiation-induced airway damage after lung radiotherapy with very high doses per fraction" ($154,496.00).

Articles Published

Entered into PubMed May 11–June 7. Titles link to PubMed abstracts, with full-text links.

1. Kline K, Chen W, Kallen ME, Koka R, Omili D, Fan X, Iragua T, Gebru E, Dishanthan N, Baker JM, Dietze KA, Yared JA, **Hankey K,** Dahiya S, Niederhaus SV, Dunleavy K, Hardy NM, Leutkens T, Rapoport A, Atanackovic D. Chimeric antigen receptor (CAR) T cells for the treatment of a kidney transplant patient with post-transplant lymphoproliferative disorder (PTLD). *Hum Vaccin Immunother.* 2023 Jun 6;2216116. Online ahead of print.
2. Prabhu RS, Akinyelu T, Vaslow ZK, Matsui JK, Haghighi 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. Risk factors for progression and toxic effects after preoperative stereotactic radiosurgery for patients with resected brain metastases. *JAMA Oncol.* 2023 Jun 8. Online ahead of print.
3. Sutera P, Song Y, Van der Eecken K, Shetty AC, English K, Hodges T, Chang J, Fonteyne V, Rana Z, Ren L, Mendes AA, Lumen N, Delrue L, Verbeke S, De Man K, Song DY, Pienta K, Feng FY, Joniau S, Lotan T, Lane B, Kiess A, Rowe S, Pomper M, DeWeese T, Deek M, Sweeney C, Ost P, **Tran PT.** Clinical and genomic differences between advanced molecular imaging-detected and conventional imaging-detected metachronous oligometastatic castration-sensitive prostate cancer. *Eur Urol.* 2023 May 10:S0302-2838(23)02790-2. Online ahead of print.
4. Sutera PA, Shetty AC, Hakansson A, Van der Eecken K, Song Y, Liu Y, Chang J, Fonteyne V, Mendes AA, Lumen N, Delrue L, Verbeke S, De Man K, Rana Z, Hodges T, Hamid A, Roberts N, Song DY, Pienta K, Ross AE, Feng F, Joniau S, Spratt D, Gillessen S, Attard G, James ND, Lotan T, Davicioni E, Sweeney C, **Tran PT,** Deek MP, Ost P. Transcriptomic and clinical heterogeneity of metastatic disease timing within metastatic castration-sensitive prostate cancer. *Ann Oncol.* 2023 May 8:S0923-7534(23)00657-9. Online ahead of print.
5. Yang Y, Zhang L, **Ren L,** Zhou L, Wang X. SuperMini-seg: An ultra lightweight network for COVID-19 lung infection segmentation from CT images. *Biomed Signal Process Control.* 2023 Aug;85:104896.

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 Resub.	07/05/23	06/20/23	06/23/23	06/27//23
R21 Resub.	07/16/23	06/30/23	07/07//23	07/11//23

Clinical Trial Enrollment, continued:

- 1 patient enrolled at UMMC on **NRG BN-011**: A phase III trial of lomustine-temozolomide combination therapy versus standard temozolomide in patients with methylated MGMT promoter glioblastoma.
- 2 patients enrolled at MPTC on **GCC 1669**: Pediatric Proton Consortium Registry: Registry for pediatric patients treated with proton RT.
- 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 MPTC on **GCC 19140**: Pilot study of laser interstitial thermal therapy followed by hypofractionated radiation therapy for treatment of recurrent gliomas.