

Department of Radiation Oncology

Monthly Research Update: May 2025

MAY AT A GLANCE TOTALS

Clinical trials

Total enrolled	29
GCC, other	9
NRG, co-ops	2
PCG, other registries	18

Grants and contracts

New awards	0
Submitted	1

Articles published	9
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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

2025 Seed Grant Awardees

On June 12 the 2025 Department of Radiation Oncology Seed Grant Awards were announced by the Executive Academic and Advisory Council (EAAC). Awardees were **France Carrier, PhD**, professor, for "Validating dual oxygenase 2 as a modulator of radiosensitivity and expression of the immune checkpoint program death-ligand 1 (PD-L1) in esophageal cancer" (\$28,200) and **Robabeh Rahimi, PhD**, associate professor, for "Quantum computing for optimization in radiation oncology treatment planning" (\$10,000), as well as **Matthew Brown, MD**, resident, who, with **Sarah McAvoy, MD**, associate professor, and **Elizabeth Nichols, MD**, professor, was awarded start-up funds for "A phase II, randomized, open-label, multi-center study comparing intensity modulated proton therapy versus volume modulated arc therapy in patients receiving pelvic nodal irradiation for newly diagnosed gynecologic primaries" (\$11,800).

The Seed Grant program was initiated more than a decade ago by the EAAC to support collaborative research within our department and promising outside collaborations that provide preliminary and other data to enhance the pursuit of external funding for continued research. The award term is 1–2 years, with terms beginning on July 1 and ending on June 30. Eligible applicants include any full-time faculty member or resident (partnered with a faculty member) in our department.

Karl Prado Physics & Radiobiology Review Course

The 22nd Annual Dr. Karl Prado Physics and Radiobiology Review Course was hosted by the Department of Radiation Oncology over a distributed 3-day program (May 5, 16, and 21) tailored to the evolving needs of virtual/hybrid learning. More than 100 U.S. and international attendees included radiation oncologists, physicists, translational scientists, and medical residents and physics residents. The program, which included 13 physics and 13 radiobiology sessions, was led by course directors Amit Sawant, PhD (Physics), and France Carrier, PhD (Radiobiology). Originally 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. For additional information, see the [full course agenda and lecturers](#).

Clinical Trial Enrollment

- 14 patients at MPTC on the **Proton Collaborative Group Registry**
- 4 patients at MPTC on the **Deep Thermal Therapy HUD**
- 2 patients at UMMC on **GCC 2384**: Evaluation of improved onboard patient imaging with the HyperSight platform on TrueBeam 4.1
- 5 patients at UMMC on **GCC 2380**: A single arm phase I-II trial evaluating selective adjuvant therapy for HPV mediated oropharynx SCCs based on residual circulating tumor DNA (ctDNA) levels (SAVAL)
- 1 patient at UMMC and 1 at UCH on **NRG BN013**: Phase III trial of single fraction stereotactic radiosurgery (SRS) versus fractionated SRS (FSRS) for intact brain metastases
- 1 patient at MPTC on **GCC 2431**: A pilot study of chemoimmunotherapy combined with hyperthermia and spatially fractionated radiotherapy in advanced biliary tract cancer
- 1 patient at MPTC on **GCC 19140**: Pilot study of laser interstitial thermal therapy followed by hypofractionated radiation therapy for recurrent high-grade gliomas

Grants and Contracts

Submitted

- **Lei Ren, PhD**, PI/PD, lead for In Vivo Dosimetry Core, Co-lead, Research Project 3, resubmission 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 radio-acoustic image-guided precision radiotherapy" (\$3,656,375)

Articles Published

Entered into PubMed May 9–June 10. Titles link to PubMed abstracts.

1. **Biswal NC, MacFarlane M, Mossahebi S, Deng W, Yao W, Molitoris JK, Ferris MJ, Yi B, Zakhary MJ.** Standardized review criteria improve the efficiency of verification CT workflows in adaptive proton therapy for head-and-neck cancers. *Med Dosim.* 2025 May 31:S0958-3947(25)00027-5. Online ahead of print.
2. Bzhilyanskaya V, Tong JY, **Ferris MJ, Molitoris JK**, Hatten KM. Nutritional outcomes in HPV-associated oropharyngeal squamous cell carcinoma after transoral robotic surgery. *Laryngoscope.* 2025 May 13. Online ahead of print.
3. Gohari Z, Stojanovic L, **Rassool FV.** Combining STING agonists with PARP inhibitors mounts an NK-dependent defense against therapy-resistant breast cancer. *Cancer Res.* 2025 May 15;85(10):1747-1749.
4. **Krc R**, Baniel CC, Lichter K, Jatar S, Peters GW, Taswell CS, Ponce SB, MacDuffie E, LeCompte MC, Chen JJ, Wang K, LoTempio A, Saripalli A, Kaya E, Barry P, Masters AH, Jagsi R, Kahn JM. The Society for Women in Radiation Oncology five years later: Connection, representation, and inclusivity matter. *Pract Radiat Oncol.* 2025 May 26:S1879-8500(25)00148-1. Online ahead of print.
5. Kwong E, Liu CC, Adapa K, Vizer L, Anderson B, McHugh D, Pawlicki T, Miften M, **Sawant A**, Chargaia N, Das S, Marks LB, Wright JL, Mazur L. Towards better understanding of factors contributing to medical physicist well-being in academic medical centers: A systems-analysis approach. *J Appl Clin Med Phys.* 2025 May 11:e70122. Online ahead of print.
6. **Lafargue A**, Wang H, Chettiar ST, Gajula RP, **Shetty AC, Song Y**, Simons BW, **Khan MA**, Nguyen T, Tseng HW, **Chang J**, Waters DN, **Chan A**, Lam C, Carrieri FA, Smack C, Connis N, Chowdhury DD, Nugent K, Siddiqui I, Tapparra K, Rezaee M, Zachara N, Morris ZS, McFarland C, Abdulkadir SA, Hann CL, **Tran PT.** Twist1-induced suppression of oncogene-induced senescence in non-small cell lung cancer requires the transactivation domain of Twist1. *Neoplasia.* 2025 May 22;66:101179. Online ahead of print.
7. Parker CTA, Mendes L, Liu VYT, et al.; STAMPEDE collaborators; Berney DM, **Tran PT**, Spratt DE, Sydes MR, Parmar MKB, Clarke NW, Brown LC, Feng FY, Esteva A, James ND, Attard G. External validation of a digital pathology-based multimodal artificial intelligence-derived prognostic model in patients with advanced prostate cancer starting long-term androgen deprivation therapy: a post-hoc ancillary biomarker study of four phase 3 randomised controlled trials of the STAMPEDE platform protocol. *Lancet Digit Health.* 2025 Jun 3:100885. Online ahead of print.
8. Sharma VR, Jiang Z, **Mossahebi S**, Shakeri E, **Chalise A**, Gobbert MK, Peterson SW, Polf JC, **Ren L.** Modeling prompt gamma (PG) emission, detection and imaging in real patient anatomy using a novel Compton camera for dose verification in proton therapy. *Phys Med Biol.* 2025 May 30. Online ahead of print.
9. Wang JH, Sherry AD, **Bazyar S**, ...**Dudley SA**...**Tran PT**, Kiess AP. Outcomes of radium-223 and stereotactic ablative radiotherapy versus stereotactic ablative radiotherapy for oligometastatic prostate cancers: The RAVENS phase II randomized trial. *J Clin Oncol.* 2025 May 7:JCO2500131. Online ahead of print.

Important Dates for Upcoming Funding Submissions

Below is an updated calendar for remaining **Cycle II NIH Submission Deadlines for 2025**, with firm due dates for major standard NIH deadlines (RFA/PA dates may differ). Contact the Department Office of Research Administration (msegers@som.umaryland.edu) ASAP if you plan to submit a funding proposal, regardless of funder.

NIH deadline ⁴	DORA deadline ¹	ORA deadline ²	SPA deadline ³
R01/U01 July 5 (renewal, resubmission, revision)	06/23/2025	06/27/2025	06/30/2025
R21* July 16 (renewal, resubmission, revision)	07/03/2025	07/07/2025	07/09/2025

¹**DORA deadline:** All forms to be included in proposal, known or in draft, budget final, subcontractor budgets and information final in final form, 9 business days prior to NIH deadline. ²**ORA deadline:** Personnel, effort, budget materials, performance site, and compliance forms routed in final form, 7 business days prior to NIH deadline. ³**SPA deadline:** All proposal materials routed in FINAL form by 5 pm, 5 business days prior to NIH deadline. No more corrections allowed, unless indicated (after review) by SPA. *R21 deadline is also for R03, R33, R21/R33, R34, R36, U34, UH2, UH3, and UH2/UH3 submissions.