

**William Barrett, MD**  
Chair, Radiation Oncology  
Professor

**Vinita Takiar, MD, PhD**  
Vice Chair of Research  
Associate Professor

**Michael Lamba, PhD**  
Professor

**Dan Ionascu, PhD**  
Associate Professor

**Mathieu Sertorio, PhD**  
Assistant Professor

**Ralph Vatner, MD, PhD**  
Assistant Professor


### Welcome to the Family, Matt and Shelby!



Mathieu Sertorio, PhD and his lab manager Shelby McCauley came to us from Cincinnati Children's Hospital. They are focusing their efforts on the biological and molecular effects of proton radiation on tumor and healthy cells in comparison to other radiation therapies. They also hope to develop combinatorial strategies to improve the response to treatment and patient outcomes.

### In the News

#### Tweet

 UC Health  
Health @UC\_Health

This weeks #FrontlineFriday celebrates our FLASH Proton Radiation Therapy Research team, who leads the FLASH FAST-01 study – the only trial in the world treating cancer patients with FLASH radiotherapy. Thank you to this incredible group of experts at the UC Cancer Center.



### Meet the Team

Vinita Takiar, MD, PhD and her team are interested in mechanisms of resistance to radiation therapy, focusing on head and neck cancers. Their overall goal is to better understand how tumor cells evade or resist cell death by anti-cancer therapy. If these mechanisms were better understood, then clinical treatment could be better tailored to each patient. Dr. Takiar co-leads her laboratory with Dr. Trisha Wise-Draper (Medical Oncology).



Christina Wicker, MS, PhD  
Postdoctoral Fellow

Poornima Dubey, PhD  
Postdoctoral Fellow



Julianna Korn  
Grad Student



Maria Lehn  
Sr. Research Assistant

### Upcoming Events



University of Cincinnati • UC Health • Cincinnati Children's

8<sup>th</sup> Annual UC Cancer Center, Charge Against Cancer  
**The Next Frontier in Cancer Detection & Diagnostics:  
Where Are We and Where Can We Go?**

Friday, Aug. 27, 2021 | 7:30 a.m. – 5:00 p.m.

Community Cocktail Reception  
5:00 – 7:00 p.m.

**Sample Space Event Center**

140 Marian Spencer Way  
Cincinnati, OH 45202

Complimentary parking in the Mid Central Riverfront Garage  
(entrance on East Melling Way)

RSVP: kellyhummel@uc.edu



Dan Ionascu, PhD and Michael Lamba, PhD head up a laboratory that is combining advances in radiation physics with recent developments and innovations in advanced, quantitative imaging technologies, radiobiology, biophysics and cell biology. They aim to investigate the effectiveness of radiation-drug interactions and facilitate true understanding of cell proliferation to develop adjuvant therapies.



Ralph Vatner, MD, PhD is focused on studying the effects of ionizing radiation on the immune system to address its limitations in controlling widely metastatic disease as well as the toxic late effects it has in growing children.

## Please Congratulate...

**John Breneman, MD** for being named one of the 2021 Class of ASTRO Fellows!

The ASTRO Fellow designation, or FASTRO, honors individuals who have contributed significantly to the Society through committee work, other volunteer service and to the field of radiation oncology in the areas of research, education, patient care or leadership. Active, International and Emeritus members are nominated for fellowship by current ASTRO Fellows and supported by leaders in the field. He will receive this honor at this year's annual meeting in Chicago.

**Kyle Wang, MD** for receiving the COM Research Innovation/Pilot Grant!

Dr. Wang's project is entitled, "Human iPSC Cardiac Organoids and Mechanisms & Mitigation of Radiation Cardiotoxicity With High Dose-rate (FLASH) RT".

**Mathieu Sertorio, PhD** for receiving the COM Research Innovation/Pilot Grant!

Dr. Sertorio's project is entitled, "Neural Progenitor Therapeutics to Improve Brain Radiotoxicity".

**Andrew Frankart, MD (PGY-4)** for receiving the ASTRO-AZ radiation oncology fellowship!

With this \$100,000 award, Dr. Frankart will spend the next year at AstraZeneca working on late-stage clinical trial development focused on combinations of radiation with chemotherapy, immunotherapy and other targeted agents.

**Jordan Kharofa, MD** for receiving the UCCC Marlene Harris-RIDE Cincinnati Grant!

Dr. Kharofa's project is entitled, "Assessment of Intratumoral Bacteria in Localized and Metastatic Breast Cancer".

## ASTRO 2021 Presentations

**Bailey Nelson, MD**

*Poster Presentation:* Hematologic Toxicity Comparison of Intensity-Modulated Proton Therapy and Intensity-Modulated Radiation Therapy in Anal Cancer Patients

*Poster Presentation:* Differences in Normal Tissue Exposure and Second Malignancy Risk with Inclusion of the Vertebral Body in Pencil Beam Scanning Proton Craniospinal Radiotherapy

**Andrew Frankart, MD**

*Poster Presentation:* Concurrent Immunotherapy with Chemoradiation for Definitive Management of Locally Advanced Laryngeal Cancer: A Prospective Trial

*Poster Presentation:* Long-Term Locoregional Control with Unilateral Radiation for AJCC-7 T1-2N2b Tonsillar Cancer

**Samuel Keltner, MD, BS**

*Poster Presentation:* Neoadjuvant Therapy Regimens for Hilar Cholangiocarcinoma Before Liver Transplant

**Vinita Takiar, MD, PhD**

*Session Chair:* Treating the Toxicity: Survivorship Following Head and Neck Cancer Radiotherapy

*Moderator:* Head and Neck Cancer in 2021: Updates and New Directions

**Luke Pater, MD**

*Moderator:* Improving the Therapeutic Ratio in Pediatric Malignancies

## Publications (2021)

Anker CJ, ... **Kharofa J**, et al. The evolving personalized landscape of colorectal cancer therapies. *Int. J. Radiat. Oncol. Biol. Phys.* 2021;110:1255-1262.

Breneman DL, ... **Breneman JC**. Long-term effects of total skin electron beam therapy for mycosis fungoides on hair and nail loss and regrowth. *J Dermatolog Treat* 2021;1-4.

**Breneman J**, ... **Mascia A**, et al. Methodical approach to flash clinical trials: A comment on buchsbaum et al., flash radiotherapy: New technology plus biology required. *Int. J. Radiat. Oncol. Biol. Phys.* 2021.

Carsuzaa F, ... **Takiar V**, et al. Recommendations for postoperative radiotherapy in head & neck squamous cell carcinoma in the presence of flaps: A gortec internationally-reviewed hncig-endorsed consensus. *Radiother Oncol* 2021.

**Dubey P**, ... **Takiar V**. Chapter eight - applications of electrospinning in tissue engineering and beyond. In: Kasoju N and Ye H, eds. *Biomedical applications of electrospinning and electrospinning*: Woodhead Publishing, 2021;pp. 229-243.

**Dubey P**, ... **Takiar V**. Chapter eleven - trending approaches in electrospinning and electrospinning for biomedical applications. In: Kasoju N and Ye H, eds. *Biomedical applications of electrospinning and electrospinning*: Woodhead Publishing, 2021;pp. 333-354.

Pomeranz Krummel DA, ... **Ionascu D**, et al. Melanoma Cell Intrinsic GABAA Receptor Enhancement Potentiates Radiation and Immune Checkpoint Inhibitor Response by Promoting Direct and T Cell-Mediated Antitumor Activity. *Int J Radiat Oncol Biol Phys.* 2021 Mar 15;109(4):1040-1053.

Eaton BR, ... **Vatner R**, et al. Ewing sarcoma. *Pediatr. Blood Cancer* 2021;68 Suppl 2:e28355.

Eaton BR, Schwarz R, **Vatner R**, et al. Osteosarcoma. *Pediatr. Blood Cancer* 2021;68 Suppl 2:e28352.

**Frankart AJ**, ... **Takiar V**, **Kharofa J**. Assessing the reliability and positive predictive value of p16 as a surrogate for human papillomavirus-mediated e6/7 mRNA expression in squamous cell carcinoma of the anal canal. *Dis. Colon Rectum* 2021;64:459-465.

**Frankart AJ**, ... **Takiar V**. Osteoradionecrosis: Exposing the evidence not the bone. *Int. J. Radiat. Oncol. Biol. Phys.* 2021;109:1206-1218.

Hallemeier CL, ... **Kharofa J**, et al. Randomized trials for esophageal, liver, pancreas, and rectal cancers. *Int. J. Radiat. Oncol. Biol. Phys.* 2021;109:305-311.

Howell JN, ... **Kharofa JR**. Analysis of patient-reported outcome utilization within national clinical trials network cooperative group radiation oncology trials over the past 2 decades. *Int. J. Radiat. Oncol. Biol. Phys.* 2021;109:1151-1160.

**Kharofa J**, Tendulkar R, Fields E, et al. In reply to pohar. *Int. J. Radiat. Oncol. Biol. Phys.* 2020;108:836.

Tsang DS, ... **Breneman JC**, et al. Palliative radiation therapy for children with cancer. *Pediatr. Blood Cancer* 2021;68 Suppl 2:e28292.

Hernandez Brandi M, ... **Takiar V**, Tang AL. Trends in Number of Women Speakers at the American Head and Neck Society Meetings, 2007-2019. *JAMA Otolaryngol Head Neck Surg.* 2021 Jul 24.

**Kreinbrink PJ**, ... **Takiar V**. Pre-treatment absolute lymphocyte count predicts for improved survival in human papillomavirus (hpv)-driven oropharyngeal squamous cell carcinoma. *Oral Oncol.* 2021;116:105245.

Krummel DP, ... **Lamba M**, Wells S, **Vatner RE**, **Sertorio M**, **Ionascu DT**, Sengupta S. Targeting a unique electrochemical vulnerability in a pediatric brain tumor to potentiate proton beam radiotherapy. *Clin. Cancer Res.* 2021;27:1.

Leddon JL, Chirra M, **Frankart AJ**, ... **Takiar V**, Wise-Draper TM. Hypothyroidism in head and neck squamous cell carcinoma patients receiving radiotherapy with or without immune checkpoint inhibitors. *Laryngoscope* 2021.

**Pater L**, Melchior P, Rube C, et al. Wilms tumor. *Pediatr. Blood Cancer* 2021;68:e28257.

Sabulski A, ... **Vatner R**, et al. Hyperdiploid precursor b-acute lymphoblastic leukemia presenting as a cavernous sinus mass in a 4-year-old male. *Pediatr. Hematol. Oncol. J.* 2021;43:e494-e497.

**Takiar V**. In reference to the psychological impact of head and neck cancer in pain perception. *Laryngoscope* 2020.

Thompson E, **Barrett W**. Ultra-long-term toxicity of prostate brachytherapy. *Brachytherapy* 2021.

Ruiz-Torres S, ... **Sertorio M**, et al. Inherited DNA Repair Defects Disrupt the Structure and Function of Human Skin. *Cell Stem Cell.* 2021 Mar 4;28(3):424-435.e6.

**Vatner R**, James CD, Sathiseelan V, et al. Radiation therapy and molecular-targeted agents in preclinical testing for immunotherapy, brain tumors, and sarcomas: Opportunities and challenges. *Pediatr. Blood Cancer* 2021;68 Suppl 2:e28439.

von Allmen D, Tang A, **Takiar V**, et al. Modified head and neck swallow scale: Using eortc-qlq-h&n35 to predict overall survival. *Laryngoscope* 2021.

**Wicker CA**, ... **Takiar V**. Glutaminase inhibition with telaglenastat (cb-839) improves treatment response in combination with ionizing radiation in head and neck squamous cell carcinoma models. *Cancer Lett.* 2021;502:180-188.

Wilke C, **Takiar V**, Wang H, et al. Defining the dose-volume criteria for laryngeal sparing in locally advanced oropharyngeal cancer utilizing split-field imrt, whole-field imrt and vmat. *J. Appl. Clin. Medical Phys.* 2021;22:37-44.

Winer LK, ..., **Kharofa J**, Patel SH. Evaluating the impact of espac-1 on shifting the paradigm of pancreatic cancer treatment. *J. Surg. Res.* 2021;259:442-450.

**Sertorio M**, ... **Mascia A**, **Ionascu D**, et al. Differential transcriptome response to proton versus X-ray radiation reveals novel candidate targets for combinatorial PT therapy in lymphoma. *Radiother Oncol.* 2021 Feb;155:293-303.