

The UCSF RadOnc Beam

News & Ideas from the UCSF Radiation Oncology Team

UCSF Radiation Oncology Welcomes

Dr. Ke Sheng, PhD, DABR, FAAPM,
as Vice Chair of Physics

Please join us in welcoming Dr. Ke Sheng, PhD, DABR, FAAPM, who joined our department in early December as our Vice Chair of Physics. We were able to interview Dr. Sheng and learn more about his journey to UCSF Radiation Oncology and his vision for the future of the Department and the Division of Physics



Q: We are very excited to welcome you to UCSF and the Department of Radiation Oncology. Can you tell us what you envision for our Department in your new role?

A: It is my honor to serve the Department. UCSF Radiation Oncology has been a leading department in radiotherapy with a strong tradition of innovation in patient care and technology. I envision continuing the trajectory of excellence and increasing institutional, regional, and national influence. I envision more integrated physics, biology, and clinical research, which will lead to impactful inventions, discoveries, and clinical translational products. Besides outstanding postgraduate and residency education, UCSF Radiation Oncology will strengthen its role in predoctoral education and help shape the future landscape of radiotherapy. Medical physicists have been and will keep providing essential clinical services. I envision a more active role for medical physicists to engage in education, operations, and new technology adoption.

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Q: Can you tell us a little about your background and where you came from before joining UCSF?

A: I received my PhD medical physics training from the University of Wisconsin, Madison, under the supervision of Drs. T. Rock Mackie and Bhudatt Paliwal. I was a faculty medical physicist at the University of Virginia before joining UCLA in 2011. I transitioned from the clinical position to a more research-focused position between 2015-2016 with an increasing research portfolio encompassing image acquisition, reconstruction and processing, treatment planning optimization for X-rays and charged particles, preclinical and clinical instrumentation, robotics, and computational biology. I have mentored over 20 trainees, most of whom launched their successful faculty careers in radiation oncology. In the past several years, I have been increasingly involved in department operations and took on a mentorship position for junior faculty career development.

Q: What drew you to UCSF and our Department?

A: UCSF has so much to offer. It is impossible for me to summarize in a paragraph without missing something important. However, if I am allowed to give just one reason, it is the people here. The intellectual density and capacity at UCSF and Radiation Oncology are incredible; the collegiality is palpable and irresistible.

Q: What directions do you see in the foreseeable future, both in terms of your own research, and research opportunities for the Division of Physics and the Department as a whole?

A: My lab is heavily invested in solving optimization problems at the heart of treatment planning and image acquisition. These new algorithms maximize the potential of existing hardware and, in many cases, push us to invent new hardware. I also seek to gain a mechanistic understanding of biological phenomena via first-principles simulation. I look forward to plugging my research into the vast map of existing research at UCSF and leveraging the institutional strengths in imaging, nuclear medicine, biology, and clinical science. There is a strong shared interest in data science among many faculty including my physics colleagues. Radiation oncology, as a highly quantitative discipline, is well-positioned to take advantage of the data infrastructure at UCSF for ground-breaking discoveries leading to precision medicine. I also see an increasing value of physics in operations research that helps Radiation Oncology deliver high-quality care more efficiently while minimizing error. The great thing about medical physics research is its immense breadth, which offers practically infinite research topics and collaboration opportunities. My physics colleagues are encouraged to branch out to new research directions and uncharted territories. The Department's research will benefit from increasing integration within and beyond the Department of Radiation Oncology. The combination of radiotherapy with immunotherapy is a perfect example of one plus one being greater than two.

Q: What are your favorite hobbies or pastimes?

A: Tennis, snowboarding, hiking, biking, baking, movies, audiobooks, and spending time with family and friends.

Spotlight On Research:

“Cancer Immunotherapy, Liver Metastasis, and the Future of Abscopal Effect Research”

Dr. James Lee, MD, MHS

Assistant Professor,

Department of Radiation Oncology

The immune system is a powerful ally in the fight against cancer because of its potency, precision, adaptability, and capacity for memory. Checkpoint inhibitor immunotherapy (CPI), unlike all of its predecessor cancer treatments, is a class of drugs capable of offering patients complete and durable responses, even at stage IV. These recent advancements are revolutionary for clinical oncology, but they are likely just the beginning, similar to the lighting of the first long-lasting incandescent light bulb. The complexity of cancer immunity is evident in our inability to forecast immunotherapy responses and adverse reactions, as discernable patterns are just becoming visible. Our Cutaneous Oncology Program was among the first to report that melanoma patients with liver metastasis have a dismal response rate to immunotherapy. Notably, having liver metastasis makes a melanoma patient's likelihood of responding to anti-PDI-1 monotherapy more comparable to that of HCC's 15% than the ~40% average rate for stage IV melanoma. The liver is anatomically, histologically, and functionally unique, with intricate stromal architecture and specialized immune-regulatory cells that enable immune tolerance to innocuous nutrient and commensal antigens from the gut while maintaining host defense against pathogenic microbes. It is also a top site of metastasis for most cancers, revealing an area of critical unmet need in oncology research. While several proposed mechanisms for local hepatic immune regulation exist, how the liver can shape systemic melanoma immunity and control cancer mortality remain poorly understood. Using a novel dual-tumor syngeneic immunocompetent murine model, we recapitulated the liver-induced systemic tumor immune tolerance and provided initial mechanistic insights into how cancer cells in the liver could activate Tregs and recruit antigen-specific MDSCs to cause clonal anergy, resulting in widespread tumor-specific T cell dysfunction and non-responsiveness to CPIs. Our model, the accessibility of melanoma patient biopsy samples, and the expanding technological advancements in single-cell transcriptomics at UCSF, provide a unique experimental window to investigate deeper into this challenging problem and methods to overcome it.



Nearly seventy years ago, in 1953, Dr. RH Mole observed and coined the term “abscopal effect,” describing it as “an action at a distance from the irradiated volume but within the same organism.” Seventy years before that, the surgeon WB Coley hypothesized it was not the tumor debulking surgery that cured Fred Stein’s large recurrent sarcoma but the inflammation from post-op erysipelas that caused the tumor “to steadily disappear until no trace remained.” Today, the mechanisms of both of their observations are recognized to be immune-mediated. There is renewed interest in radiotherapy and surgery for metastatic cancer patients because of their proven impact on the immune system and the potential to synergize with cancer immunotherapy. The dogma in clinical oncology had been to avoid surgery or radiotherapy in stage IV cancers unless it is for palliation. Since studies had never shown significant overall survival benefits over chemotherapy, the consensus for decades was that their risks outweighed the benefits.

It is rational to challenge this dogma today. The immune system is an interconnected network of cells working in concert across the organism, providing an avenue for actions at one part of the body to influence another. Indeed, in the era of modern immunotherapy, the radiotherapy abscopal effect is observed with more frequency when combined with CPIs, both in the clinic and preclinical models. Mounting data also suggest tumor-excising surgery, performed after neoadjuvant CPIs, achieves superior outcomes than the reverse order and either modality alone, by reprogramming systemic antitumor immunity. Just as the advent of CPIs exposed the liver’s powerful tolerogenic impact on systemic antitumor immunity, so too it is amplifying and unveiling the therapeutic potential of radiation and surgery in the metastatic setting. We now have the opportunity to examine with unprecedented resolution the immunological and molecular underpinnings of the abscopal effect and the impact of surgery in metastasis and immunotherapy. The next priority of my lab is to leverage next-generation spatial multi-omics upon parallel clinical and preclinical studies to decipher the tolerogenic immune synapse within liver metastasis and establish targetable pathways for therapeutic trials. I welcome any highly-motivated trainees interested in these projects.

Educational Programs

Miriam Gray, Educational Programs Manager; Dr. Steve Braunstein, MD, PhD, Residency Program Director; Dr. Martina Descovich, PhD, Director of Medical Physics Residency Program

Reflecting on Program Recruitment

Annually, the Medical and Physics Residency Training Programs undertake the multi-month process of recruiting new residents into each program respectively. Recruitment efforts are guided by each programs' accrediting body, UCSF standards, as well as Match guidelines.

The Match 2022 interview season was the second recruitment season Radiation Oncology residency programs held virtual interviews. The virtual interview process complies with the UCSF GME recruitment policy and serves to advance equitable and transparent selection process for all participants. To this end, faculty, residents and program leadership successfully engaged qualified candidates by remote face-to-face interviews, and virtual informational sessions which displayed the training environment.

The virtual interview platform provided the programs the opportunity to connect with a larger pool of potential applicants. Virtual recruitment efforts, in part serves to provide equity for applicants who may not have resources for onsite interviews, may reduce the economic burden on applicants, may reduce the interruption of education for students, residents and fellows, and may reduce disruption of patient care if program trainees are preoccupied with onsite recruitment activities.

The Medical Residency Program received approximately 111 applications, interviewed 30 candidates, and successfully matched 3 residents who will join the department in July 2023.

The Physics Residency Program received approximately 93 applications, interviewed 20 candidates, and successfully matched 2 Physics Residents who joined the residency program July 2022.

The Residency Program leadership extends its sincere gratitude to the Selection Committee's respectively, and to all faculty and residents who participated and helped to engage candidates. We appreciate faculty and residents who provided a welcoming environment and who communicated the mission and values of UCSF and the Department.



Moving Ahead

Drs. Jessica Chew, Nam Woo Cho, Sumi Sinha, Harish Vasudevan successfully completed their medical residency training, and we were delighted to see them transition into their respective faculty roles.

Dr. Phillip Wall and Dianne Ferguson graduated from the Medical Physics Residency Program and started their faculty appointment at Washington University School of Medicine in St. Louis, and Brigham and Women's Hospital Harvard Medical School, respectively.

In July 2022, we welcomed six new Radiation Oncology Residents and one Brachytherapy Fellow.

Drs. Rachael Conger, Rachel Sabol, Mia Salans, and Petria George Thompson began their PGY-2 medical residency training July 1st of the 2022-2023 academic year and Drs. April Chau, and Evan Porter commenced their first year of Medical Physics Residency.

Under the leadership of Dr. Steve Braunstein and the supervision of Drs. Joe Hsu and Osama Mohamad, the Brachytherapy Fellowship was reestablished. Dr. Nauman Malik was recruited into this position for the 2022-2023 academic year.

Please see the brief biographies of our department's newest Trainees in the Welcome column of this newsletter. We look forward to your engaging with each trainee throughout the academic year and beyond.

Clinical Trials

Studies open in 2022

PI	Protocol#	Study Title	Funding	6 month Accrual	Study Status
Dr. Park	187513	Hypofractionation after breast reconstruction for breast cancer (FABREC)	DFCI/PCORI	0	Closed
Dr. Yom	162010	Nivolumab + chemoRT for patients with nasopharyngeal cancer	IIT/BMS	1	Open
Dr. Yom	166520	PembroX: Pembrolizumab +/- SBRT prior to surgery for NSCLC (PembroX)	IIT/Merck	0	Closed
Dr. Yom	18201	Phase 1/2 trial of concurrent RT, cisplatin, and BMX-001 in locally advanced H&N cancer	BioMimetix	0	Closed
Dr. Yom	NRG-HN001	Phase II/III studies of individualized treatment for nasopharyngeal cancer based on biomarker EBV DNA	NRG	1	Open
Dr. Yom	NRG-HN004	Phase II/III trial of RT and concurrent durvalumab vs. RT and concurrent cetuximab in H&N cancer pts with a contraindication to cisplatin	NRG	0	Open
Dr. Yom	NRG-HN005	Phase II/III trial of deintensified RT for favorable oropharyngeal cancer	NRG	3	Open
Dr. Chan	RTOG 1216	Phase II/III Trial of adjuvant RT with cisplatin, docetaxel-cetuximab, or cisplatin-atezolizumab in pathologic high-risk squamous cell cancer of the head and neck	NRG	1	Open
Dr. Wong	CC#20727	STEEL: Phase II trial of salvage RT with standard or enhanced ADT for post-op PSA recurrences with aggressive disease features (RTOG 3506 STEEL)	RTOG Foundation	2	Closed
Dr. Mohamad	GU008	Phase III trial of abiraterone acetate with prednisone and apalutamide and advanced imaging in salvage treatment for node-positive prostate cancer after prostatectomy (GU-008)	NRG	1	Open
Dr. Feng	CC# 19721	Phase II study of hypofractionated RT to augment immune response in metastatic GI cancers progressing on immune therapy (ARM-GI)	IIT/Varian	2	Open
Dr. Feng	CC# 194522	Phase II trial of palliative hypofractionated RT followed by durvalumab +/- tremelimumab for advanced HCC	IIT/Astra-Zeneca	3	Open
Dr. Mohamad	CC#21726	Phase II randomized trial of SAbR with or without neurovascular sparing for erectile function preservation in localized prostate cancer (POTEN-C)	UTSW	0	Open
Dr. Mohamad	NRG-GU 009	Parallel phase III randomized trials for high risk prostate cancer evaluating de-intensification for lower genomic risk and intensification of concurrent therapy for high genomic risk with Radiation (PREDICT-RT)	NRG	0	Open
Drs. Yom/Chew	CC#22721	Phase III trial addressing taste dysfunction with miraculin in head and neck cancer patients receiving radiation therapy	UCSF- IIT	1	Open
Dr. Yom	CC#21728	SBRT for Early Treatment of Oligometastatic Adenoid Cystic Carcinoma: The SOLAR trial	DFCI	0	Open

Studies in the Pipeline

Dr. Mohamad	NRG-GU 010	Parallel phase III randomized trials of genomic-risk stratified unfavorable intermediate risk prostate cancer: De-intensification and intensification clinical trial evaluation (GUIDANCE)	NRG		
Dr. Chan	NRG-HN006	Randomized phase II/III trial of sentinel lymph node biopsy vs. elective neck dissection for early stage oral cavity cancer	NRG		
Dr. Chan	NRG-HN009	Randomized phase II/III trial of RT with high-dose cisplatin every 3 wks vs. RT with low-dose weekly cisplatin for patients with locoregionally advanced SCC of the head and neck	NRG		

Physics Division

The Physics Division has been tackling many projects this past quarter. Here is a selected list of our major team efforts:

ARIA

Much of the attention of the Physics Division this past summer/fall has been focused on the transition to the ARIA Oncology Information System (OIS). Physicists and Dosimetrists in the division contributed to many crucial areas of the project including data migration, carepath workflows, treatment planning workflow/documentation, data reporting, machine interfaces and quality assurance. This is no small feat for a department with highly diverse treatment software systems and machines. Year-long preparation and weekend machine testing with many functional groups and vendor partners resulted in a smooth and successful transition. Following go-live, the Physics/Dosimetry teams continue to adjust to the new OIS and apply refinements to the clinical operations where needed.

Gamma Knife Reload

192 new Cobalt-60 sources have been loaded into the unit at Parnassus this past fall. Many functional groups contributed to the project and the team took advantage of the ARIA conversion and new GK remote planning capabilities to improve the workflow and documentation for the daily review of cases. The GK program also onboarded several team members who will help support the increased use of fractionated ICON mask-based treatments.

Standardization Working Group

More recently, a working group has been formed to improve standardization in naming of planning contours (targets and organs at risk) which will enable new automation and quality assurance in the entire chain of the radiation therapy workflow and documentation. The overarching goals of the working group are to increase the specificity of planning directives, minimize manual entries in the treatment planning system, add layers of automation where possible, and create new planning quality assure checks via scripting. We aim to implement these changes in the first quarter of 2023.

Finally, we would like to welcome Dr. Ke Sheng, who joined us on December 1st as our new Vice Chair of Physics, and Dr. Wensha Yang, who joined our Physics faculty this fall at PCMB. We would also like to welcome Ali Rode, our current Dosimetry student who accepted a full-time position here and starts in December, as well as Arturo Cortez who will start as a new Dosimetrist in January



Quality and Safety

Dr. Lauren Boreta, MD; Dr. Nicolas Prionas, MD, PhD; Dr. Emily Hirata, PhD; Dr. Olivier Morin, PhD; Nina Pitts; and Lindsay Williams

The year 2022 kicked off with a series of reaccreditations and surveys. After successful visits by the State of California Radiologic Health Branch (RHB) and American College of Radiology (ACR), resulting in stellar reviews and a full 3-year accreditation from the ACR, UCSF Health and our department were visited by The Joint Commission. During their visit, our health system was commended for exceptional performance and best practices, with note of our equity in care and True North boards, amongst many other accolades.

Within the Cancer Center, Radiation Oncology is exemplary in delivering high quality care. We consistently excel in several Cancer Center-wide metrics, including patient experience (measured as likelihood to recommend) and access to care. Our department, and especially the Palliative Radiotherapy team at Parnassus, leads the cancer center in guiding and documenting discussions of Advance Care Planning with our patients.

Department-wide, we continue to steadily grow our foundation of quality and safety while also rolling out transformative quality improvement projects:

- **Incident Reporting:** Use of the incident reporting system remains at high levels of engagement from all members of our inter-disciplinary treatment team, documenting events of any severity level.
- **Event Response:** For high-risk events, our department has responded in a methodical and collaborative fashion to perform root cause analyses, involve and empower all stakeholders, develop new safety protocols, and disseminate and train these new workflows. A key example includes the rollout of escalated on-board imaging and position verification when treating central structures (ribs and vertebrae) with ablative radiotherapy.
- **Tiered Planning/Guardrails:** Our deep dive into the simulation to treatment workflow described our department's prior practice pattern and helped guide the development of tiered planning pathways that protect the necessary time for each team member to perform their responsibilities in delivering safe and high-quality radiotherapy. This work served as the starting point to develop CarePaths in our new Oncology Information System, ARIA, and lead to the current pilot of guardrails that help prevent last minute urgencies in plan preparation.



- **ARIA:** The transition to ARIA was a massive undertaking that required tremendous effort from the entire team. From a Quality and Safety perspective, the ARIA transition provided an opportunity to re-evaluate our practice and revisit various workflows. This included extensive revision and in some cases development of new directives for clearer communication across our teams. ARIA enables closer measurement of our tasks, which enables us to build in guardrails to ensure the time for safety and quality assurance is safeguarded. As we embark on our pilot phase of measuring our new performance, we can identify inefficiencies and optimize our tiered planning system.
- **APEX OTV Notes:** the ARIA transition also enabled documentation of on-treatment patient encounters in the APEX medical record, with automatic importing of cumulative dose delivery. By documenting in a common forum with our referring providers, we ensure transparency of information and smoother coordination of treatment, improving safety especially for those patients receiving highly coordinated care (e.g. chemoradiotherapy).

It was an incredibly busy year, particularly with the transition to ARIA, but we find ourselves at the starting line of a new era with a new suite of tools to continue optimizing our practice and growing our culture of quality and safety. We have a new robust ability to measure performance and provide feedback to further optimize our processes, eliminate inefficiency, and amplify safety. Congratulations to all for your contributions to our department's prominence in delivering high quality, safe radiotherapy.

Operations

Nina Pitts, Dr. Emily Hirata, Dr. Lauren Boreta, Dr. Nicolas Prionas, and Alan Taniguchi

We have so much to be proud of this year. While most of the past six months in operations have been focused on transitioning our Oncology Information System from Mosaiq to ARIA, we have also accomplished many additional important projects. These projects have included several critical system upgrades as well as positive visits from the Joint Commission, ACR (Virtual), Radiologic Health Board (RHB) and Nursing Magnet. Please see the below list of ARIA and Non-ARIA accomplishments.

As always, thank you again for all you do every day. We look forward to this next year as we focus on standard workflows, documentation, and enhanced communication.

ARIA Accomplishments:

- Data migration of clinical treatment information for 36k patients from Mosaiq to ARIA
- Multidisciplinary teams met to consolidate workflows and review and design encounters and/or carepaths to support
 - o Gamma Knife, Cyber Knife, Proton Ocular, HDR and unit specific work for each of our teams
 - o Implementation of ADT, SIU, DFT and EOTS HL7 interfaces
 - o Integration of treatment machines
 - o System infrastructure built to support 200+ concurrent users
 - o Base reporting setup and assessment for core operation function
- System training for over 200 staff over four weeks
- Our IT Team Prepared and supported Rad Onc Citrix environment for ARIA go-live while maintaining stability and performance of other Rad Onc clinical applications on existing Citrix platform.

Non-ARIA Accomplishments:

- Rad Onc went live with Open Scheduling for our New Patient Coordinators on 10/3/22
- We increased MR Sim volume by continuing to add new service lines
- Gamma Knife reload was completed on 10/10/22 and treatment restarted on 10/11/22. This was a major undertaking, especially during the ARIA transition and go-live



- Rad Onc nurses have joined the UCSF Cancer Center Nursing Patient Education Council
- Rad Onc Participated in the UCSF Magnet Nursing reaccreditation survey and several of our RN team members met with surveyors to describe our workflows and achievements. Both wound care and our HDR procedure suite were highlighted during this visit
- We are now doing DIBH at Mount Zion using AlignRT for left-sided breast cancer patients
- In addition to ARIA, we also worked on a number of system upgrades and/or enhancements:
 - o We upgraded RayStation to 11A running Windows 2016 with minimal interruption which allowed improved functionality, fixed a number of bugs, and allowed us to combine FFF and non-FFF beams into a single machine
 - o Tomo + CK treatment planning system was upgraded in October
 - o We had Versa imaging hardware system (kV +MV) overhaul and upgrade on Versa
 - o We upgraded the Gamma Knife treatment planning system
- IT and Physics partnered on several projects including work with the MIM Research server, Oncentra HDR upgrades, VisionRT, Eyeplan, Gamma Knife upgrades, as well as new research hardware deployments such as new Exaact and GPU Workstation/Servers

Diversity, Equity, & Inclusion

*Dr. Lauren Boreta, MD; Dr. Paola Betancur, PhD;
and Lindsay Williams*

The Diversity Committee continues to make strides in the realms of diversity, equity, and inclusion (DEI) through outreach, mentorship, curriculum, hiring, research, health inequities projects, and data collection and analysis.

In 2022, the Committee continued to encourage and support incorporating DEI into various aspects of the department including but not limited to curriculum, onboarding, and development. In Spring 2023, committee members are partnering with UCSF Neurosurgery's Community Internships Program to host a hands-on radiation oncology learning session on the Parnassus campus with underprivileged San Francisco youths.

Moreover, the Committee members continue to engage in mentorship programs such as PROPEL, SF Build, CURES, HERO Project, and Emerson Collective (First Generation and Health Research Scholars). This year PROPEL, co-founded by Dr. Paola Betancur, welcomed 40 new postbaccalaureate scholars to the program for the 2022-2023 cycle. In addition, the program received five years of governmental funds through an R25 application and by partnering with Emerson Health to extend an invitation to 10 fully funded scholars to join the program as PROPEL-PREP scholars or PROPEL/Emerson Health scholars for one to two years. Through these opportunities, Dr. Betancur recently welcomed Diane Verendia Acenas to her lab as a Junior Specialist. Daniza obtained her BS in Biology with the concentration of Microbiology from San Francisco State University. Her research interest is to learn more about cancer biology and immunotherapies in the next couple of years before she applies to a PhD program.

The Diversity Committee is open to all Radiation Oncology faculty and staff. Please reach out to any or all the committee Co-chairs if you are interested in joining or starting any diversity initiatives.



Welcome

Please join us in welcoming the following new faculty, residents, and staff members to UCSF Radiation Oncology:

Vice Chair of Physics:

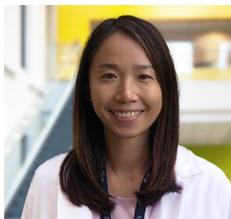


Dr. Ke Sheng, PhD, DABR, FAAPM, joined our department on December 1st as our new Vice Chair of Physics. Dr. Sheng comes to us from UCLA where he served as Associate Vice Chair and Director of Physics research since 2016. Dr. Sheng is internationally renowned

for his impactful research in medical physics, notably in 4Pi radiotherapy, and multiple fronts of innovation around robotics, preclinical instrumentation, proton therapy, MR guided radiotherapy, and FLASH radiotherapy, to name a few. He has a deep dedication to faculty and trainee mentoring, a track record in research that only a few could rival, and a palpable excitement for innovation.

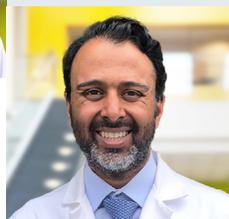
MD Faculty:

Dr. Jessica Chew, MD, joined our department on September 1st as a Clinical Instructor. Dr. Chew is located at Parnassus and her primary areas of focus involve the treatment of lymphoma, hematologic and central nervous system malignancies, and metastatic disease. She received her undergraduate degree from UCLA and medical degree from Georgetown University. She completed internship in Internal Medicine at Alameda County Medical Center Highland Hospital and residency in Radiation Oncology at UCSF. Dr. Chew's expertise includes modern radiation therapy techniques such as intensity-modulated radiation therapy, stereotactic body radiation therapy, and stereotactic radiosurgery. Her research interests focus on improving the cancer care patient experience through minimizing treatment-related toxicity and expanding the role of radiation therapy in a multidisciplinary approach.



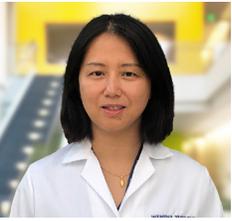
Dr. Nam Woo Cho, MD, PhD, joined our department on July 1st as a Clinical Instructor and research fellow. Dr. Cho is located at Mount Zion and his clinical areas of focus include melanoma/cutaneous malignancies and lung cancers. Dr. Cho received his undergraduate degree from Harvard College, and MD/PhD degrees from the University of Pennsylvania. He completed his internship in Internal Medicine at St. Mary's Medical Center in San Francisco, and his residency in radiation oncology at UCSF. His research focuses on understanding fundamental immunologic mechanisms that govern responses to immune stimulating therapies including radiation therapy and immune checkpoint inhibitors. Dr. Cho leverages molecular, cellular, organismal, and computational platforms to define novel mechanisms, pioneering the next generation of radio- and immune-therapeutics.

Dr. Sumi Sinha, MD, joined our department on September 1st as a Clinical Instructor. Dr. Sinha is located primarily at Mount Zion and Mission Bay and her clinical specialization is therapy for ocular tumors including melanoma and head and neck cancers. She conducts clinical research in medical education, clinical informatics, and health disparities for which she has numerous publications. Her philosophy is a team-based approach to cancer treatment, centered on care for the whole patient.



Dr. Harish Vasudevan, MD, PhD, joined our department on July 11th as an Assistant Professor In-Residence. Dr. Vasudevan's clinic is located at Parnassus and his particular areas of focus involve the treatment of adult and pediatric CNS malignancies. As a physician scientist, Dr. Vasudevan's research focuses on how oncogenic growth factor signaling leads to cancer, with an emphasis on neurofibromatosis. His laboratory leverages a multidisciplinary approach to understand how such cancers develop with the goal of devising improved diagnostic and therapeutic approaches for patients.

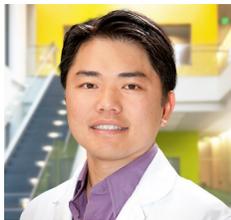
Physics Faculty:



Dr. Wensha Yang, PhD, DABR, joined our Physics faculty on Monday, October 3rd, as an Associate Professor of Clinical X and is primarily located at our PCMB offices at Mission Bay. Dr. Yang majored in Chemistry, receiving her PhD from the University of Wisconsin-Madison. She began her Medical Physics career over 15 years ago and has experience in both clinical and academic settings. Dr. Yang will provide day-to-day clinical physics services to patients. Dr. Yang is also a principal investigator on four NIH R grants and numerous state and institutional grants. She is motivated by translational research that can advance cancer patients' radiation treatment. An avid educator, Dr. Yang is enthusiastic about training the next generation of physicists in classes, daily clinical practice, and research. Outside of work, Dr. Yang is a mother of two teenage girls and enjoys skiing, biking, and trying out good foods with family and friends.

Radiobiology Faculty:

Dr. James Lee, MD, MHS, joined our Radiobiology faculty on Monday, October 3rd, as an Assistant Professor In Residence and holds a joint appointment in the Division of Hematology/Oncology in the Department of Medicine. Dr. Lee's lab is located in the 2340 Sutter Street Labs at the Mount Zion campus. Dr. Lee is a melanoma oncologist and physician-scientist with over a decade of research experience in immuno-oncology, with expertise in complex preclinical models of checkpoint inhibitor and chimeric antigen receptor (CAR) T cell therapies. Dr. Lee's early contributions include the testing of 2nd/3rd generation CAR T cells in syngeneic immunocompetent animal models, results which were later contributed to the establishment of the FDA approved CAR T cell program for CD19+ leukemia/lymphomas. Currently, Dr. Lee is working with the Parker Institute of Cancer Immunotherapy (PICI), to design the next generation of cancer immunotherapeutics for more precision and efficacy capable of overcoming the tolerant/suppressive tissue-specific tumor microenvironment associated with advanced cancers, with a focus on liver and bone metastasis. At the center of Dr. Lee's current interests are methods to combine readily



accessible therapeutic modalities such as radiotherapy and surgical metastasectomy with modern immunotherapy to reignite tumor immune responses. Teaming up with world-class basic immunologists and oncologists at UCSF, Dr. Lee and his colleagues are exploring ways to decode the network of organ specific immune-suppressors common in solid malignancies to overcome the body's peripheral tolerance mechanisms co-opted to shut down current forms of T cell mediated treatments. Dr. Lee hopes to meet these challenges through diligent reversal-translational and bench-to-bedside research and see the next generation of cancer immunotherapy drugs deliver durable and curative responses for more stage IV cancer patients.

Medical Residents:



Rachael Conger, MD, was born, raised and educated in Wisconsin (ope!). Growing up, her mother had a long and fulfilling career as a nurse, which ultimately influenced her decision to pursue medicine. She completed her undergraduate degree in History, with a concentration in WWII, at the University of Wisconsin - Madison and received her medical degree from the Medical College of Wisconsin in Milwaukee. In between undergrad and medical school, she spent some time learning German and exploring historical WWII sites in Berlin. She completed her preliminary medicine internship at Aurora St. Luke's Medical Center also in Milwaukee. Outside of her clinical training, she is passionate about making a difference in health equity for underserved communities, as well as empowering and uplifting groups historically excluded from medical education and training. This manifests in her research interests surrounding outcomes for LGBTQ+ folks undergoing cancer treatment. In her free time, Rachael enjoys snuggling with her cat, brewing uniquely delicious beer with her friends, reading and watching historic books and films, as well as getting outside as often as possible to enjoy a myriad of activities, including hiking, pickle ball, cycling, and gardening to name a few.



Rachel Sabol, MD, PhD, was born and raised in Bozeman, Montana. She attended Tulane University where she received a bachelor's degree in Cell and Molecular Biology and master's degree in Neuroscience prior to matriculating into the joint MD-PhD program at Tulane

School of Medicine. Her thesis research studied the effects of obesity alterations in the breast cancer tumor microenvironment on breast cancer tumor biology. She moved to San Francisco to complete her Internal Medicine Internship at California Pacific Medical Center prior to starting the Radiation Oncology Residency Training Program at UCSF. She is passionate about providing the highest quality, personalized care to her patients and continuing to advance the field of Radiation Oncology and improve patient care through translational research. Outside of the hospital, she enjoys hiking, skiing, art, and music.

Mia Salans, MD, MAS, was born and raised in Washington, D.C. and attended UC Berkeley, where she received her degree in Integrative Biology. Prior to starting medical school, she spent two years studying DNA nanotechnology as a Junior Specialist in Dr. Shawn Douglas' lab at UCSF. She then attended medical school at UC San Diego, where she quickly developed an interest in oncology. Following her third year of medical school, she earned her master's degree in Clinical Research at UC San Diego, during which time she studied imaging biomarkers of neurocognitive decline after brain radiotherapy in Dr. Hattangadi-Gluth's lab. Prior to joining the UCSF Radiation Oncology Residency Training program, she completed a transitional year at Memorial Sloan Kettering Cancer Center in New York City. She looks forward to continuing her involvement in clinical research and starting her career in Radiation Oncology. During her free time, she enjoys reading, listening to music, exploring San Francisco, and playing the New York Times crossword puzzle.



Petria-George Thompson, MD, PhD, (she/her), was born in Kingston, Jamaica, and raised in the Southeastern United States. She attended Emory University, earning a bachelor's degree in Chemistry summa cum laude. Before matriculating from the MD/PhD program

at Vanderbilt University, she worked at the National Cancer Institute as a researcher in Dr. Dinah Singer's lab, studying BRD4 and transcription biology. She earned her PhD in biochemistry in Dr. David Cortez's lab, where she studied a new DNA repair pathway repair for abasic sites. She also served as the Region X Director for the Student National Medical Association (SNMA), building awareness of health equity via educational and mentorship programming. She completed an internship in internal medicine at St. Mary's Medical Center in San Francisco before joining UCSF. In her free time, Petria enjoys indoor rock climbing, cooking the latest Alison Roman recipes, hiking, and attending live concerts. She is thrilled to be joining UCSF and working alongside a passionate group of physicians, physicists, dosimetrists, therapists, and nurses.

Physics Residents:

April Chau, PhD received her PhD in Medical Biophysics from the University of Western Ontario. Her PhD research focused on assessing acute cardiac toxicity after left-sided breast cancer and non-small cell lung cancer radiotherapy using advanced multi-modality imaging such as hybrid PET/MRI. Her current translational clinical research interest areas include cardiac oncology, cancer imaging and treatment evaluation. Outside of work, April enjoys "anything about food."





Evan Porter, PhD, obtained his PhD in Medical Physics at Wayne State University, with research conducted at both Beaumont Health and University of Pittsburgh Medical Center. His dissertation focused on the application of deep learning to hippocampal segmentation

and synthetic image generation for lung functional avoidance radiotherapy treatment planning. Following graduation from Wayne State, Evan began a clinical medical physics residency at the University of California, San Francisco where he continues research in the clinical application of computational image analysis and deep learning. Outside of the clinic, Evan enjoys tinkering with his server, backpacking, cycling, and skiing.

Brachytherapy Clinical Fellow:

Nauman Malik, MD, hot sauce collector, outdoor runner, Twitter lurker.

Dr. Malik is a clinical Brachytherapy Fellow in Radiation Oncology with interests in applications of brachytherapy in all indications, head and neck cancers, and global health. He completed his residency training at University of Toronto in Canada, at both Princess Margaret Cancer Center and Sunnybrook Health Sciences Center, and completed a concurrent master's degree in Epidemiology at the London School of Hygiene & Tropical Medicine. Dr. Malik has served on national and international advocacy roles during training as Board member of the Canadian Radiation Oncology Foundation (CROF), a charitable advocacy group working to advance the field of radiation oncology; Canadian liaison to Association of Residents in Radiation Oncology (ARRO), as well as Canadian Association of Radiation Oncology Education and Global Health Committees. He also led the redesign and implementation of a virtual national summer educational and research program for medical students in Canada interested in radiation oncology, the Pamela Catton Summer Studentship, which continues to run annually.



Dr. Malik's research interests to date have focused on understanding predictors of outcomes in head and neck cancers, improving and advocacy in medical education in oncology including global education, MRI radiomics in glioblastoma, and understanding the use of stereotactic body radiotherapy in lung & head and neck cancers.

Staff:

Jeannie Anderson, an experienced dosimetrist, joined us in August and is based at PCMB.

Grace Bermudez joined our department as a MD Support PC at Mount Zion, supporting Drs. Gottschalk and Roach.

Shayla Byrd joined our department as a MD Support PC at Parnassus, supporting Drs. Raleigh, Vasudevan, and Chew.

Vy Cao joined our department as a New Patient Coordinator at Mount Zion.

Lauren Chu joined our department as the Front Desk Coordinator at Mount Zion.

Andrew Cooke joined our department last summer as a Clinical Applications Specialist.

Lily Escajadillo joined our department in April as an experienced RTT from Alta Bates Summit Medical Center, and she provides coverage at our PCMB practice at Mission Bay.

Antoinette Gutierrez joined our department as a Revenue Cycle Analyst in July 2022 from the team of the FPO department.

Africa Jackson joined our department as a Front Desk PC at Parnassus.

Staff:

Cherisse Jones has transitioned from a Front Desk PC to a New Patient Coordinator at Parnassus.

Renee Kwok joined our department in May as an experienced RTT from El Camino Health and she provides coverage at our Mount Zion practice.

Keisha McQueen joined our department as Revenue Manager in July 2022.

Brandi O'Connell re-joined our department this summer and it is such an honor to have her back as one of the Sr. RTTs at our PCMB practice at Mission Bay.

Luis Pelayo joined our department in May as our new MRI Tech at our PCMB practice at Mission Bay.

Elizabeth (Lizzie) Ramirez transitioned from her Medical Assistant role to Authorization Coordinator in July 2022.

La'Rina White started as a Front Desk PC at PCMB in June 2022.

Greg Zhovreboff joined our department in August 2022 as a MD Support PC at PCMB, supporting Drs. Chan and Cho.



Accolades

First Lady Dr. Jill Biden visited UCSF and met with top UC San Francisco cancer leaders, early career breast oncologists, surgeons, and research investigators to hear about UCSF's breast cancer research and progress on the National Cancer Moonshot. The visit, which was timed to mark Breast Cancer Awareness Month in October, highlighted the complexities of cancer, as well as UCSF advances in breast cancer research and programs that support breast cancer patients, survivors and caregivers. During the First Lady's visit, our own **Dr. Paola Betancur, PhD**, had the opportunity to meet the First Lady and emphasize the importance of performing research to understand the different components contributing to breast cancer disease and to then use this knowledge to advance the development of therapies. Dr. Biden first visited UCSF with then-Vice President Joe Biden in 2016 as part of the launch of the Cancer Moonshot, which aimed to accelerate progress against cancer and develop new and swifter cancer therapies. In early 2022, President Biden reignited the Cancer Moonshot with an audacious goal of cutting the cancer death rate in half over the next quarter century.



Pictured above: First Lady, Dr. Jill Biden visits UCSF to speak with patients, researchers, and doctors as part of President Biden's Cancer Moonshot program. Left to right: Alan Ashworth, MD; Paola Betancur, PhD; Monica Bertagnolli, MD; First Lady Jill Biden, PhD; Kami Pulakhandam; Rita Mukhtar, MD; and Representative Jackie Speier

Dr. Steve Braunstein, MD PhD, was named a member of the Haile T. Debas UCSF Academy of Medical Educators. The Academy's core value is to support the people who advance the education mission of UCSF by fostering an organizational culture that values education and accelerates advances in teaching and learning to improve health with an emphasis on community, diversity, advocacy, service, and innovation.

Dr. Lauren Boreta, MD, was awarded The 2022 Ernest H. Rosenbaum, MD, Commitment to Patient Care Award, which recognizes clinicians who are deeply committed to the highest quality patient care. Each year, the Symptom Management Service recognizes Cancer Center faculty and staff who provide outstanding patient care in either outpatient or inpatient settings and who innovate and promote patient and family-centered services in the UCSF Helen Diller Family Comprehensive Cancer Center.

Stacey Bromley, EJ Cabuhat, Aryn De Santis, Laura Dompig, Eri Glaub, and Noreen Nazareno were just promoted to Senior RTTs. All of them have been valuable team members of the Rad Onc family for over five years and their promotions were well deserved.



Celebrations

Joint Resident Welcome and ARIA Go-Live Celebration

Our department hosted a joint Resident Welcome and ARIA Go-Live Celebration on Friday, October 14th, 2022, at Mission Rock Resort to welcome our new residents and thank our entire team for all of their hard work during the ARIA transition.



Residents pictured left to right: Drs. Rachael Conger, John Liu, William S. Chen, Lisa Ni, Katherine Chen, Rachel Sabol, Tio Thomas, Jane Chen, Ben Li, Petria Thompson, and William C. Chen



Pictured left to right: Florence Yuen, Theresa Quock, Dr. Jesse Alexander, Joyce Tang, and Jennifer Bohm

Pictured left to right: Ludene Wong, Theresa Quock, Sherman Lim, and Dr. Sumi Sinha

Halloween

In the photos below, the Radiation Oncology staff at Mount Zion celebrate Halloween much to the excitement of colleagues and patients.



Coffee Talk

Q What drew you to the field of Radiation Oncology?

My PhD work was focused on defining how cancer cells repair broken DNA, and extensively used ionizing radiation as a tool - this naturally led me to think about Radiation Oncology as a specialty as I transitioned back to Medical School. Also, I've always been very good at spatial and visual thinking, and this facility has been very useful in this field!

Q What is the most interesting part of your job?

Following my clinic at Mount Zion, I often move on to my "mouse clinic" for treating my experimental mice with cancer, with up to 60 patients at a time! This makes for long days of work but I love the ability to directly test translational scientific ideas that are motivated by limitations we see with currently available cancer therapies.

Q What's the best spot for lunch on campus?

B On the Go near Mount Zion is great. I like the bahn mi sandwich from there!

Q What do you do to unwind?

I love playtime with our six-month old baby girl (I think she does too). Watching her discover new things one by one has been an amazing experience.



With Dr. Nam Woo Cho,
MD, PhD

Clinical Instructor

Department of Radiation Oncology

We Want To Showcase You!

If you or your team is doing something newsworthy, we want to know. To share your story ideas or successes in this newsletter, please contact Eric.Breedon@ucsf.edu