OBITUARY

Sanjiv Sam Gambhir (November 23, 1962—July 18, 2020)

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The brightest guiding light went out when Professor Sanjiv Sam Gambhir lost his hard-fought battle with cancer on July 18, 2020. Sam was the Chair of the Department of Radiology at Stanford University School of Medicine; the Virginia and D.K. Ludwig Professor in Cancer Research; and Director of the Molecular Imaging Program at Stanford (MIPS), the Canary Center at Stanford for Early Cancer Detection, and the Precision Health and Integrated Diagnostics Center. He is survived by his wife Aruna, his sister, and his parents.

Sam's family moved from India to Arizona when he was 5 years old. He was an extremely gifted student who started studying physics at age 15 at Arizona State University, graduating with *summa cum laude*. He continued his higher education at UCLA where he enrolled in the Medical Scientist Training Program, earning his PhD in biomathematics and later receiving his MD. After completing an internship in Internal Medicine and residency in Nuclear Medicine, he was appointed as an Assistant Professor in the Department of Molecular and Medical Pharmacology in 1994 and quickly rose through the ranks to Professor.

Sam's arrival at Stanford in 2003 sparked a revolution in many areas of research, including microPET, bioluminescence imaging,

optical imaging, Raman, ultrasound, and photoacoustics. In addition to his innovations in basic science, he built a world-class clinical Nuclear Medicine program and soon after became laser-focused on early cancer detection and precision health.

Sam was an extraordinary mentor. He always made time for his students, residents, and junior faculty and gave them his undivided attention. When Sam spoke to you, you felt as if you were the only person in the room, regardless of your experience or title. He treated everyone with the utmost respect and dignity. He not only mentored his staff and trainees on science but also on how to treat one another kindly, make time for what matters most in life, and to be thankful for all that we have.

He remained by our side during challenging times, was always encouraging, and ready to celebrate our successes. He would often send a "WOOOOHOOOOO! I'm so proud of you" email to congratulate us on getting a small grant or the acceptance of a paper that had been long under review. Often times, he would send a handwritten card and flowers when one of his trainees or staff received a fellowship or award or to let them know he was thinking of them during a difficult time. Sam continued doing this even during the most excruciatingly trying times in his own life, after losing his son Milan and during his own harrowing battle with cancer.

What set Sam apart was his genuine desire to care for people. Whenever he learned that anyone in his greater Radiology family had an emergency, he would immediately call and do everything and anything to help. He would personally follow up to see how the person was the next day and lend his support. He would tirelessly email and call around to find the best medical care for our loved ones when needed and advised us on self-care during stressful times.

As a teacher, he always encouraged his students to think differently, to strive for excellence, and to never give up, often saying: It is not called "search" but it is called "research" for a reason. You have to keep trying and pushing to figure it out. His positive and persistent attitude, alongside his creativity and sheer brilliance, inspired generations of young physicians and scientists to become better clinicians and researchers. He helped troubleshoot experiments when

we were stuck, strategize grant writing when funding was tight, and coached us on how to have difficult conversations and how to deal with challenging people dynamics when we were at a loss for what to do.

Sam was a constant advocate for women and underrepresented minorities in STEM. He wholeheartedly supported the Women in Molecular Imaging Network (WIMIN) since its beginning. He gave talks at WIMIN sessions, participated in the art auction, and partnered with others in the field to provide funding for young trainees to travel to WMIC and obtain career guidance so that they might flourish and be uplifted by the imaging community. All of the WIMIN remain grateful.

A renaissance personality, Sam was a true walking encyclopedia, with knowledge and interests extending beyond medicine into the world of the arts, literature, sports, history, and politics. Music was also very important to him. Many knew of his love for heavy metal and in particular the band Metallica; he even wrote his grants to their music and would go to their concerts around the Bay Area with his wife Aruna.

He led by example and created an environment where people could have fun together both in and out of work. He was interested in each of his mentees' lives and would always ask about their families and hobbies outside of work. Sam felt, as we all did, that we were part of his extended family—"all signed up for nuclear medicine and molecular imaging" as he liked to say. He held summer pool parties at his home for many years, instigated epic water fights, went on rollercoasters with the children of his lab, and made everyone and their kids laugh.

He was a true visionary, a beautiful soul, a father figure to many, and an inspiration to us all. Although he was taken from us too soon, we are incredibly thankful to have known him for the time we did, and we will do everything in our power to ensure his legacy and the work he cared so much about is carried forward.

Sam published more than 670 peer-reviewed papers, including numerous journal covers, several well-known textbooks, many book chapters, reviews, and editorials.

For all his work, Sam received many honors and awards. This list includes some from the last decade: the Taplin Award, Holst Medal, Academy of Molecular Imaging (AMI) Distinguished Basic Scientist of the Year Award, Society for Molecular Imaging (SMI) Achievement Award, Distinguished Clinical Scientist Award from Doris Duke Charitable Foundation, Hounsfield Medal (Imperial College London), fellowship of the American Institute for Medical and Biological Engineering (AIMBE), Paul C. Aebersold Award, Organizer and Co-Chair for the Nobel Symposium in Imaging (2008), inducted as a member of the American Society of Clinical Investigators (ASCI), Tesla Medal, elected to the Institute of Medicine (IOM) of the US National Academies, Parmley Prize, Radiological Society of North American (RNSA) Outstanding Researcher Award, the Gopal Subramanian Lifetime Achievement Award, the George Charles de Hevesy Nuclear Pioneer Award, Aunt Minnie Award, Distinguished Scientist Award for Distinguished Contributions to Nuclear Medicine, Society of Asian American Scientists in Cancer Research Award, the American Association of Indian Scientists in Cancer Research Lifetime Achievement Award, Benedict Cassen Prize for Research in Molecular Imaging, Institute of Electrical and Electronics Engineers (IEEE) Marie Skłodowska-Curie Award—IEEE Advancing Technology for Humanity, and the European Society of Molecular Imaging 2020 Annual Award.

Sam served as the President of the WMIS in 2017 and was on the editorial board of *Molecular Imaging and Biology* since its inception.

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