Dr. Sanjiv (Sam) Gambhir

A message from Dr. Sudhir Srivastava as we mourn the loss of a friend and colleague

We mourn the death of noted scientist and physician Dr. Sanjiv (Sam) Gambhir, MD, PhD, Professor and Chair of the Department of Radiology at Stanford University School of Medicine. Sam passed away on Saturday morning July 18, 2020 from cancer. He was 57 years old. He was the Virginia and D.K. Ludwig Professor in Cancer Research and Director of the Molecular Imaging Program at Stanford (MIPS) and Canary Center, and had international recognition as a pioneer of molecular imaging.

Sam was known for his pioneering work in molecular imaging and nuclear medicine, PET-CT and early cancer detection. He authored 680 peer reviewed articles and had filed for more than 40 patents. In addition, he was founder or co-founder of several biotechnology companies and served on the scientific advisory board of multiple institutions, including the NCI's Board of Scientific Advisors and most recently on the NCI's Early Detection Research Network's Network Consulting Team.

Sam had received numerous honors and grant awards from NCI and was a member of the Early Detection Research Network (EDRN) from 2010-2015. He was well known to several staff in DCP's Cancer Biomarker Research Group. Sam will always be known for his creativity, fellowship and collegiality. He was a visionary and will be sorely missed by those who knew him and his research. Just two day before his death, he received Stanford's highest honor, the Dean's Medal for Scientific, Medical and Humanitarian Causes which he could not attend due to his health.

Sam had to deal with another personal tragedy several years ago when he and his wife Aruna fought for the life of their son Milan, who passed away in 2015 at the age of sixteen. Sam understood the fragility of human health and worked every day to apply his genius to research focused on diagnosing disease in its earliest and most treatable stages.

Our heartfelt condolence to his wife, Aruna, as well as to all his family and colleagues for such an immense loss. Sam was a giant in multiple areas of precision medicine and championed the cause of imaging research in cancer treatment and early detection.

COVID-19 Related Activities within the CBRG Supported Activities

As the world comes together to fight the COVID-19 pandemic, the Cancer Biomarkers Research Group (CBRG) supported investigators are making massive contributions throughout the United States in places such as Boston, San Antonio, Toledo, New York, Los Angeles, and various cities throughout Maryland.

Avi Spira and Marc Lenburg from Boston University are leveraging data they have collected via the EDRN and HTAN PCA projects to explore the expression of the receptor genes for SARS-CoV-2 in nasal and bronchial epithelium.

Ian Thompson, the Director of COVID response for the Santa Rosa Health Hospital, is enrolling the COVID patients in their hospital system. The clinical testing for COVID19 – from nasal swabs, to sputum, to blood, etc., - all have the same issues as biomarkers for cancer detection.

James Willey from The University of Toledo became the first institute to transition his testing pathology lab into a testing facility for Coronavirus. He is also responsible for developing a framework for tackling a pandemic that is nimble, distributed, and platform capable of HIGH THROUGHPUT analysis of a single target.

Harvey Pass of New York University submitted a protocol which measures the cytokine storm in these patients who have ventilator dependent ARDS and determines if the cytokine storm is influenced by certain therapies.

Paul Lampe of the Fred Hutch Cancer Research Center looks to compare plasma proteins from COVID-infected people who have experienced severe symptoms compared to those who don't via our antibody array which tests over 2,000 proteins, including most cytokines. These plasmas are needed; however, a source has not been found yet.

Matthew Schabath of Moffitt Cancer Research Center has acquired images from patients with COVID19 and other respiratory infections. We plan to build a multi-institutional warehouse of COVID19 images to conduct image-based research.

David Wong from UCLA and Charles Storm who are the CEO and Founder of Liquid Diagnostics are developing an efirm assay for detection and quantification of COVID-19 antibodies in saliva.

Stanford Stass of the University of Maryland, who is part of EDRN BRL group that

have core molecular capabilities (Drs. Kristie Johnson and Robert Christenson), have validated PCR based assays. They have validated the EUA SARS-CoV-2 assay on the GenMark ePlex system and successfully reported patient results within a two hour turnaround time. Also, in conjunction with Dr. Clare Fraser and the Institute for Genome Sciences (IGS), Stass' group will be validating and initiating testing using a Hamilton automated extractor with the assays performed in our University of Maryland CAP/CLIA Practice laboratories using a Bio-Rad platform for the assays. We expect this to be operational within the next few weeks (450 – 500/day). Under Dr. Stass the Core Clinical Chemistry research laboratories (Dr. Robert Christenson, Director), are developing and have preliminary data for an assay for successful detection of IgM antibodies or both IgM and IgG antibodies, which will be useful for detecting acute or very recent infection. The IGS Genomics Resource Center has implemented and validated a two-prong sequencing approach for COVID-19 samples, including both untargeted shotgun sequencing and targeted sequencing methods. Randomly amplified cDNA is prepared from starting RNA, including a rRNA depletion step. From there, a shotgun library is prepared using standard methods.

Daniel Chan from John Hopkins University is part of a clinical microbiology laboratory. He is performing about 500 samples a day. Most patients are from the Baltimore/DC area. The immunology laboratory is working to set up a serology test (ELISA). In addition, we are evaluating some POC tests.

New Division of Cancer Prevention Director: Phillip Castle

A message from NCI Director Norman E. Sharpless, M.D.

Dear NCI Colleagues,

I am delighted to announce that Philip E. Castle, Ph.D., has accepted our offer to join NCI as Director of the Division of Cancer Prevention (DCP) starting in early July.

With this appointment, Dr. Castle returns to NCI, where he was a tenure-track investigator and then a senior tenured investigator in the Division of Cancer Epidemiology and Genetics (DCEG), between 2003 and 2011. Most recently, he has been a Professor in the Department of Epidemiology and Population Health at the Albert Einstein College of Medicine, New York. During his tenure at Albert Einstein, Phil has continued his research on developing, evaluating and validating new technologies for the prevention of cervical cancer.

Although much of his work has been in the prevention of cervical cancer, Phil's research efforts have expanded to include the prevention of other cancers. Dr. Castle collaborated on an NIH-funded colorectal and breast cancer screening projects in Nigeria, and worked with Dr. Anil Chaturvedi, DCEG, on an oral cavity cancer screening project in India.

Dr. Castle received his B.S. (Biological Sciences) from Carnegie Mellon University, and a Ph.D. in Biophysics in 1995 from the Johns Hopkins University. He had post-doctoral training in the molecular biology of mammalian fertilization in the Laboratory of Cellular and Developmental Biology in the National Institute of Diabetes and Digestive and Kidney Diseases, and earned his M.P.H. in Epidemiology in 2000 from Johns Hopkins during his Cancer Prevention Fellowship training at the NCI.

His knowledge and in-depth experience in the field of cancer prevention, his distinctive ability to mentor and manage others, and his ability to shepherd a large, high-profile program across various disciplines and organizations, will make Dr. Castle an invaluable partner and scientific leader within NCI.

I also want to thank Dr. Deborah Winn for her excellent, steadfast leadership as Acting Director for DCP since the retirement of Dr. Barry Kramer. Dr. Winn will be staying on for a few months after Dr. Castle arrives to help with the transition.

Please join me in welcoming Phil back to NCI!

Science Trivia

According to the National Cancer Institute, approximately how many women in the US will be diagnosed with breast cancer during their lifetimes?

[Answer] : 1%

Widely accepted statistics state that approximately one in eight women will face the disease at some point, making it the most common cancer among females. Among men, prostate cancer is the most diagnosed, while skin cancer tops the list for both genders combined.

Upcoming Meetings

October 27th & 28th 2020: 36th EDRN Steering Committee Meeting (Virtual Via Zoom)

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