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## News Release

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### **National Institutes of Health Award Prestigious Outstanding Investigator Awards to Research Leaders from University Hospitals and Case Western Reserve University**

CLEVELAND: Two internationally recognized medical research leaders from University Hospitals Cleveland Medical Center and Case Western Reserve University School of Medicine have received Outstanding Investigator Awards from the National Institutes of Health (NIH). The 7-year, \$6.7 million dollar awards, which are the highest honor and largest individual support grants conferred by the NIH, will advance promising molecular studies of colon cancer and age-related cardiovascular risks, respectively. The honored physicians are:

**Sanford Markowitz, MD, PhD**, head of the GI Cancer Genetics Program at the Case Comprehensive Cancer Center, Markowitz-Ingalls Professor of Cancer Genetics at Case Western Reserve University School of Medicine and medical oncologist at UH Seidman Cancer Center, received a National Cancer Institute (NCI) Outstanding Investigator Award.

**Mukesh K. Jain, MD**, Chief Scientific Officer, University Hospitals and Harrington Discovery Institute; Chief Research Officer, UH Harrington Heart & Vascular Institute; Vice Dean for Medical Sciences and Professor of Medicine, Case Western Reserve University School of Medicine, received a National Heart, Lung, and Blood Institute (NHLBI) Outstanding Investigator Award.

#### **NCI Outstanding Investigator Award: Sanford Markowitz, MD, PhD**

The NIH describes the NCI Outstanding Investigator Award as a highly competitive award that supports investigators with outstanding records of productivity in cancer research to continue or embark on projects with significant potential for major breakthroughs.

Awardee, Sanford Markowitz, MD, PhD, is a medical oncologist who is internationally recognized for making many landmark discoveries in the genetics of gastrointestinal cancers. His research identified two key colon cancer tumor suppressor genes, TGF-beta RII and 15-PGDH, that explain how and why colon cancer develops in certain families in whom the disease is inherited. In addition, Dr. Markowitz discovered why taking aspirin can prevent colon cancer in some individuals but not others and developed a promising new drug that in mice speeds tissue repair after injury, including speeding recovery from colitis and speeding recovery after bone marrow transplantation. He moreover pioneered the development of the first stool DNA tests for early detection of colon cancer and the first esophagus DNA test for early detection of Barrett's esophagus (a precursor to esophageal cancer).

Dr. Markowitz is Principal Investigator of the NCI-funded Case GI Cancers Specialized Program of Research Excellence (SPORE), one of only five such centers of excellence recognized across the country. The Outstanding Investigator award will work together with the SPORE to advance Dr. Markowitz's studies to harness the 15-PDGH colon cancer suppressor gene pathway to improve the ability to identify individuals at high risk of colon cancer and to develop new methods and drugs for colon cancer prevention and treatment. Dr. Markowitz's contributions have also been recognized by his recently winning an international award for achievements in medical research conferred by the ruling family of Dubai.

"Sandy's work has transformed our understanding of how colon cancers develop, leading to new ways to assess risk and detect cancers early when they are highly curable." said Neal J. Meropol, MD, Chief, Division of Hematology and Oncology, UH Cleveland Medical Center and the School of Medicine and Associate Director for Clinical Research, Case Comprehensive Cancer Center. "This Outstanding Investigator Award will enable him to continue revolutionizing his field."

### **NHLBI Outstanding Investigator Award: Mukesh K. Jain, MD**

The NIH describes the NHLBI Outstanding Investigator Award as a highly competitive award that promotes scientific productivity and innovation by providing long-term support and increased flexibility to principal investigators conducting heart, lung, blood and sleep research.

Awardee Mukesh K. Jain, MD, is a practicing cardiologist who is internationally renowned for the identification of a family of proteins, known as Kruppel-like factors (KLFs), as key regulators of immunity and metabolism. His work defined KLFs as essential determinants of nutrient availability and utilization in physiology (fasting, exercise, circadian biology) and disease (myopathy, metabolic syndrome). Studies focused on the immune system have provided insights into acute (bacterial infection) and chronic inflammatory states (atherothrombosis). Finally, he established KLFs as essential regulators of cardiovascular health and stress adaptation. He has translated this body of work into animals and humans, efforts that have garnered significant recognition including recent election to the National Academy of Medicine.

Dr. Jain's recent findings, that serve as the basis of this new award, suggest that KLF proteins exert control over lifespan and general health from worms to mammals, including humans. This award from the NHLBI will support investigations to determine which KLFs are linked to aging and to understand how manipulating specific KLFs impacts cardiovascular health and age-associated disease. Ultimately this work may succeed in providing a foundation for novel therapies targeted to delay or prevent the onset and progression of age-related disorders.

"Mukesh's lifelong commitment to investigating the molecular mechanisms of cardiovascular diseases has led to discoveries that forever changed how we think about many fundamental biological processes that affect human health and aging," said Marco Costa, MD, PhD, President, Harrington Heart & Vascular Institute, UH Cleveland Medical Center and Professor of Medicine, School of Medicine. "Receiving this prestigious award is an acknowledgement of the breadth and depth of his work, and our promise to a healthier future for humankind."

### **About University Hospitals**

Founded in 1866, University Hospitals serves the needs of over 1 million patients per year through an integrated network of 18 hospitals, more than 40 outpatient health centers and 200 physician offices in 15 counties throughout northern Ohio. The system's flagship academic medical center, University Hospitals Cleveland Medical Center, located on a 35-acre campus in Cleveland's University Circle, is affiliated with Case Western Reserve University School of Medicine. The main campus also includes University Hospitals Rainbow Babies &

Children's Hospital, ranked among the top children's hospitals in the nation; University Hospitals MacDonald Women's Hospital, Ohio's only hospital for women; and University Hospitals Seidman Cancer Center, part of the NCI-designated Case Comprehensive Cancer Center. UH is home to some of the most prestigious clinical and research programs in the nation, including cancer, pediatrics, women's health, orthopedics, radiology, neuroscience, cardiology and cardiovascular surgery, digestive health, dermatology, transplantation and urology. UH Cleveland Medical Center is perennially among the highest performers in national ranking surveys, including "America's Best Hospitals" from U.S. News & World Report. UH is also home to Harrington Discovery Institute at University Hospitals – part of The Harrington Project for Discovery & Development. UH is the second largest employer in northern Ohio with 26,000 employees. For more information, go to [UHhospitals.org](http://UHhospitals.org).

### **About Case Western Reserve University School of Medicine**

Founded in 1843, Case Western Reserve University School of Medicine is the largest medical research institution in Ohio and is among the nation's top medical schools for research funding from the National Institutes of Health. The School of Medicine is recognized throughout the international medical community for outstanding achievements in teaching. The School's innovative and pioneering Western Reserve2 curriculum interweaves four themes--research and scholarship, clinical mastery, leadership, and civic professionalism--to prepare students for the practice of evidence-based medicine in the rapidly changing health care environment of the 21st century. Nine Nobel Laureates have been affiliated with the School of Medicine.

Annually, the School of Medicine trains more than 800 MD and MD/PhD students and ranks in the top 25 among U.S. research-oriented medical schools as designated by U.S. News & World Report's "Guide to Graduate Education." The School of Medicine is affiliated with University Hospitals Cleveland Medical Center, MetroHealth Medical Center, the Louis Stokes Cleveland Department of Veterans Affairs Medical Center, and the Cleveland Clinic, with which it established the Cleveland Clinic Lerner College of Medicine of Case Western Reserve University in 2002. [case.edu/medicine](http://case.edu/medicine).