

VILCEK FOUNDATION

TWO THOUSAND
ELEVEN
VILCEK
PRIZES

TENTH ANNIVERSARY

PRESS RELEASE

FOR IMMEDIATE RELEASE

**TWO THOUSAND FIFTEEN
VILCEK PRIZES
IN BIOMEDICAL SCIENCE**

VILCEK FOUNDATION HONORS
PROMINENT CELL BIOLOGIST AND
YOUNG RESEARCHERS OF PROMISE

VILCEK PRIZE IN BIOMEDICAL SCIENCE
PETER WALTER WINS \$100,000

VILCEK PRIZES FOR CREATIVE PROMISE
**SUN HUR, ROB KNIGHT,
AND FRANZISKA MICHOR TAKE \$50,000**



TWO THOUSAND FIFTEEN VILCEK PRIZES

PRESS CONTACT – PHUONG PHAM – PROGRAM OFFICER
VILCEK FOUNDATION – OFFICE 212 472 2500 – CELL 917 822 8418 – PHUONG@VILCEK.ORG – VILCEK.ORG

ABOUT THE FOUNDATION



The Vilcek Foundation was established in 2000 by Jan and Marica Vilcek, immigrants from the former Czechoslovakia. The mission of the Foundation, to honor the contributions of foreign-born scholars and artists living in the United States, was inspired by the couple’s careers in biomedical science and art history, respectively, as well as their personal experiences and appreciation for the opportunities they received as newcomers to this country. The Foundation awards annual prizes to prominent immigrant biomedical scientists and artists, and sponsors cultural programs such as the Hawaii International Film Festival.



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ABOUT THE VILCEK PRIZES

The Vilcek Foundation believes that immigrant contributions are invaluable to advancing the American arts, sciences, and culture. Now in their tenth year, the Vilcek Foundation Prizes pay tribute to and spotlight individuals whose accomplishments embody this belief.

The Vilcek Prize in Biomedical Science honors a researcher with records of major achievement in her or his field. The winner of the prize is awarded a \$100,000 unrestricted cash prize and an unique trophy designed by Austrian-born designer Stefan Sagmeister.

The Vilcek Prizes for Creative Promises in Biomedical Science, established seven years ago, commend young immigrant scientists who have demonstrated outstanding achievement in the early stages of their careers. The winners each receive a \$50,000 unrestricted cash prize and a certificate designed by Stefan Sagmeister.

All prizewinners will be honored at a ceremony in New York City in April 2015.



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JURIES

VILCEK PRIZE IN BIOMEDICAL SCIENCE JURY

Titia de Lange

Leon Hess Professor of Cell Biology,
The Rockefeller University

Thomas Jessell

Claire Tow Professor of Motor Neuron Biology,
Columbia University

Joan Massagué

Director, Memorial Sloan-Kettering Cancer
Center

Ruslan Medzhitov

David W. Wallace Professor of Immunology, Yale
School of Medicine

Inder Verma

American Cancer Society Professor of Molecular
Biology, The Salk Institute

Huda Zoghbi

Professor of Molecular and Human Genetics,
Baylor College of Medicine

VILCEK PRIZE FOR CREATIVE PROMISE IN BIOMEDICAL SCIENCE JURY

Iannis Aifantis

Professor, Chair of the Department of
Pathology, New York University School
of Medicine

Heran Darwin

Professor of Microbiology, New York University
School of Medicine

Laurie Dempsey

Senior Editor, Nature Immunology

Yibin Kang

Warner-Lambert Parke-Davis Professor of
Molecular Biology, Princeton University

Peter Palese

Professor, Chair of the Department of Microbiol-
ogy, Mount Sinai School of Medicine

Leslie B. Vosshall

Investigator, Howard Hughes Medical
Institute; Robin Chemers Neustein
Professor, The Rockefeller University

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2015 VILCEK PRIZEWINNERS



FROM LEFT TO RIGHT:

Vilcek Prize In Biomedical Science: Peter Walter, **Vilcek Prize In Fashion:** Andrew Bolton
Creative Promise Prizes In Biomedical Science: Sun Hur, Rob Knight, Franziska Michor
Creative Promise Prizes In Fashion: Siki Im, Natallia Pilipenka, Tuyen Tran

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VILCEK PRIZE IN BIOMEDICAL SCIENCE

PETER WALTER

Peter Walter was chosen as winner of the Vilcek Prize in Biomedical Science for his pioneering work on how proteins are transported between cellular compartments and for unraveling the components of a regulatory mechanism that cells use to handle stress tied to the aggregation of misshapen proteins. Dr. Walter is a professor of biochemistry at the University of California, San Francisco. His research lays the groundwork for treating a range of human diseases related to defective protein folding and transport.



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VILCEK PRIZE IN BIOMEDICAL SCIENCE

PETER WALTER

Over nearly four decades, Dr. Walter's work in cell biology has led to a fundamental understanding of important elements of the process by which proteins are ferried from their place of manufacture in cells to the final destinations where they function. During the 1980s, Dr. Walter discovered a molecular apparatus in cells called the signal recognition particle, which facilitates the transport of newly minted proteins across a cellular compartment called the endoplasmic reticulum by homing in on address tags on the proteins. Dr. Walter's steadfast investigations into the structure, versatility, and conservation of the apparatus across different forms of life have afforded crucial insights into factors that govern cellular compartmentalization and function. The significance of these findings is borne out by the large number of human diseases tied to disrupted protein transport in cells; treating such diseases requires a basic understanding of the underlying cellular processes that have gone awry.

In the mid-1990s, Dr. Walter added to our growing appreciation of how cells handle stress tied to the buildup of improperly folded proteins in the

endoplasmic reticulum. Working with yeast as a model organism, Dr. Walter and Kyoto University molecular biologist Kazutoshi Mori simultaneously identified key elements of the signaling mechanism underlying the "unfolded protein response." Dr. Walter's findings on the unfolded protein response bear implications for the treatment of human diseases such as retinitis pigmentosa, cystic fibrosis, and multiple myeloma.

Peter Walter moved from his native Berlin to the United States in 1976 and earned a PhD in 1981 under the tutelage of Rockefeller University cell biologist and Nobel Prize winner Günter Blobel. He accepted a faculty position at the University of California, San Francisco, in 1983. The seminal nature of Dr. Walter's accomplishments is evidenced by his many honors. He is a Howard Hughes Medical Institute Investigator and a member of the United States National Academy of Sciences, the European Molecular Biology Organization, and the American Academy of Arts and Sciences. His work has earned him the 2009 Gairdner International Award, the 2014 Shaw Prize, and the 2014 Lasker Basic Medical Research.

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VILCEK PRIZE FOR CREATIVE PROMISE



SUN HUR



Sun Hur was selected as the winner of a Creative Promise Prize in Biomedical Science for her interdisciplinary studies on the molecular mechanisms of enzyme reactions and the innate immune system. Dr. Hur is an associate professor at Harvard Medical School in Boston, Massachusetts, with a joint appointment at Boston's Children's Hospital. Her structural and biochemical studies have helped unravel important aspects of how the immune system distinguishes the body's own molecules from those of invading viruses. She demonstrated how immune sentinel proteins called pattern recognition receptors can tell apart cellular RNA from that derived from pathogenic viruses. Such a distinction is crucial to the activation of immune responses against viruses; mutations in the receptors, she found, can lead to unchecked immune reactions and inflammatory disorders. Dr. Hur is now on the hunt for drugs that can block haywire immune signaling triggered by such mutant receptors. In addition, she is exploring the use of genetic engineering to trigger defensive immune reactions against the products of gene fusions underlying certain kinds of cancer. Sun Hur was born in Seoul, South Korea.



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ROB KNIGHT

Rob Knight was named winner of a Creative Promise Prize in Biomedical Science for his groundbreaking research on microbial communities and the development of computational tools that honed the analysis of microbial data. Dr. Knight is a professor of pediatrics and computer science & engineering at the University of California, San Diego. His computational and experimental approaches have led to rapid and cost-effective microbial DNA sequencing methods and data analysis platforms that help to understand similarities among microbial communities based on their evolutionary relationships. Dr. Knight has used informatics to show how maps of distinct microbes thriving in different parts of the human body change over time, how human-associated microbes can influence metabolic health, and how microbes can be used as timekeepers to help establish the time of death in forensic examinations. He has also set out to catalog the diverse kinds of microbes found in ecosystems across the globe in an ambitious, collaborative effort called the Earth Microbiome Project. Rob Knight was born in Dunedin, New Zealand.



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FRANZISKA MICHOR

Franziska Michor was picked as the winner of a Creative Promise Prize in Biomedical Science for her research that fuses evolutionary biology, mathematics, and clinical research toward a better understanding of cancer genesis and treatments. Dr. Michor is a professor at the Dana-Farber Cancer Institute and Harvard School of Public Health in Boston, Massachusetts, where she leads a National Cancer Institute-sponsored Physical Science-Oncology Center aimed at using physical sciences to address intractable challenges in cancer biology. Her mathematical modeling efforts have deftly unraveled the dynamics of cancer cell evolution. By taking a quantitative approach, Dr. Michor has furnished a precise understanding of the cellular basis of drug resistance seen among cancer patients treated with the cancer drug Gleevec. She also designed novel cancer drug treatment regimens that might help increase the odds of patient survival by altering the dose and timing at which cancer drugs are administered. Early-stage clinical trials to test the logistical feasibility of Dr. Michor's alternative drug regimen for non-small-cell lung cancer and to develop an alternative radiation therapy schedule for a form of brain tumor called pro-neural glioblastoma are underway. Franziska Michor was born in Vienna, Austria.



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