



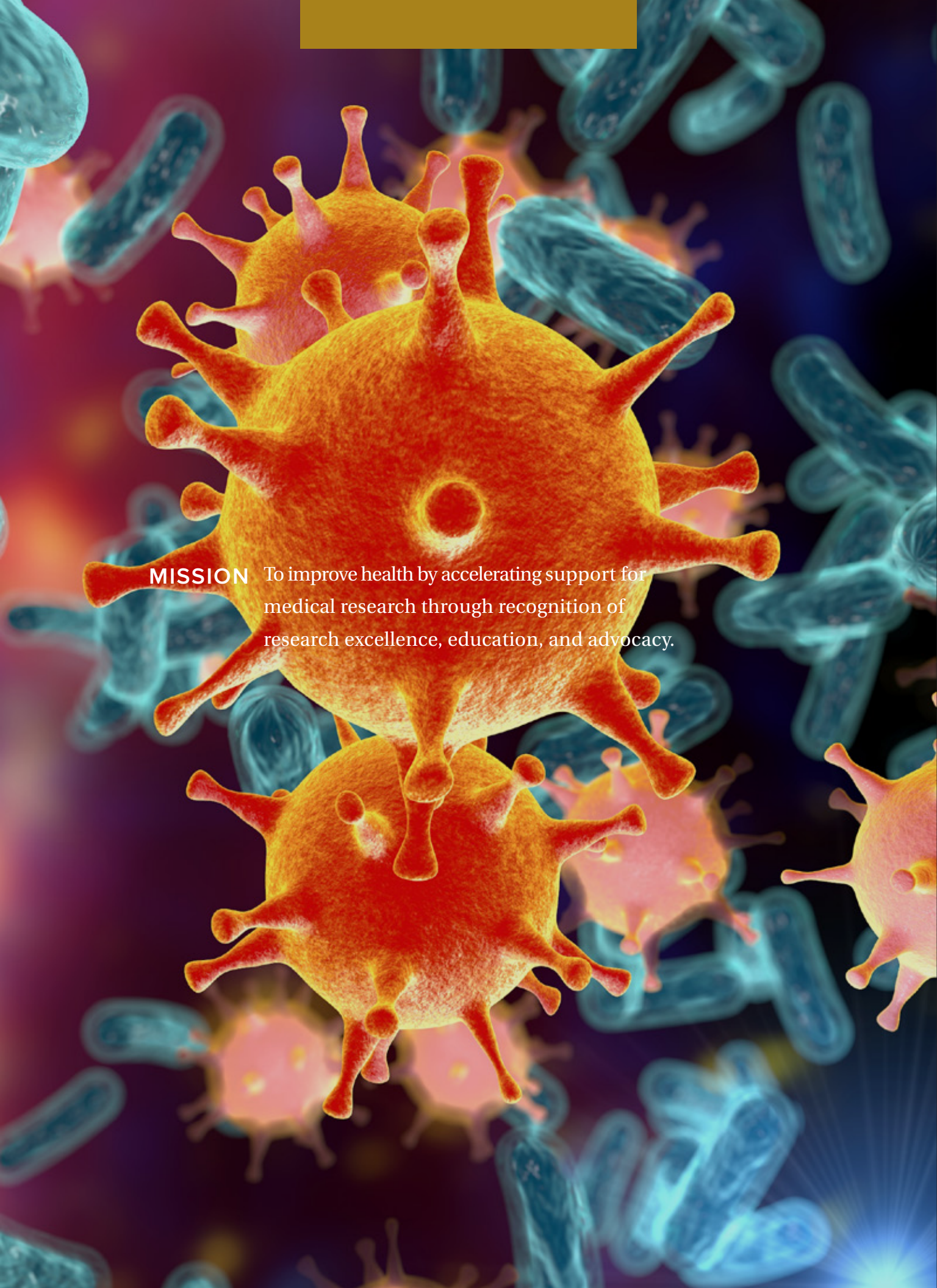
ALBERT AND MARY LASKER FOUNDATION

RESEARCH. FOR BETTER HUMAN HEALTH.

A HEALTHIER WORLD THROUGH MEDICAL RESEARCH | FUNDAMENTAL BIOMEDICAL
DISCOVERIES | PARADIGM SHIFTING CLINICAL RESEARCH | SERVICE IN SUPPORT OF THE
HEALTH OF THE PUBLIC | SCIENCE EDUCATION | ADVOCACY | SUPPORT FOR MEDICAL RESEARCH



Annual
Report
2016



MISSION To improve health by accelerating support for medical research through recognition of research excellence, education, and advocacy.



LETTER FROM THE PRESIDENT & CHAIR

Science

is a global endeavor. Researchers in many parts of the world pursue big questions that benefit all of humanity. The importance of science's international reach, and the conviction that the world needs to nurture the young scientists who will make tomorrow's research breakthroughs, guided the Lasker Foundation in 2016.

This year's Lasker Awards honored the research contributions, dedication, and passion of scientists from three different countries and two continents, who illustrated the power of medical research to illuminate fundamental aspects of life, develop cures for dreaded diseases, and raise public appreciation of science. Our 2016 laureates called attention to the importance of the full range of research to the scientific discovery process and emphasized that innovation often comes from early-career scientists, including many still training under the mentorship of more senior investigators.

The Lasker Foundation is committed to supporting and inspiring young researchers and students in STEM fields through our programs and partnerships. In 2016, the Lasker Lessons in Leadership program – in collaboration with the International Biomedical Research Alliance and the National Institutes of Health (NIH) – brought MD-PhD students and trainees at the NIH campus together with leading medical researchers who shared career advice. Through the Lasker APSA lecture in April, in partnership with the American Physician-Scientists Association, we provided inspiration and mentorship to future physician-scientists. The Lasker Essay Contest in 2016

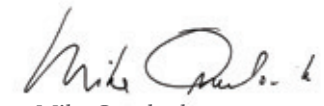
engaged young researchers and clinicians in a discussion about the big questions in biology and medicine, and the role of biomedical research in our society today. In 2017, we will open the contest to international applicants from programs outside the United States, in order to solicit ideas from the global scientific community. Finally, with our iBiology partners, we created open-access videos that convey the excitement of modern biology.

The Lasker Foundation reinforced its commitment to increasing support for medical research by joining the Science Philanthropy Alliance in the summer of 2016. Through our participation, we hope to inspire more private donors to support basic research by providing tools and information that will put them in position to better understand the landscape and opportunities for investing in innovative research.

The success of our programs this year and our continuous pursuit of the Lasker mission to improve health by accelerating support for medical research would not have been possible without the dedication and commitment of our partners, and the support of the Lasker community.

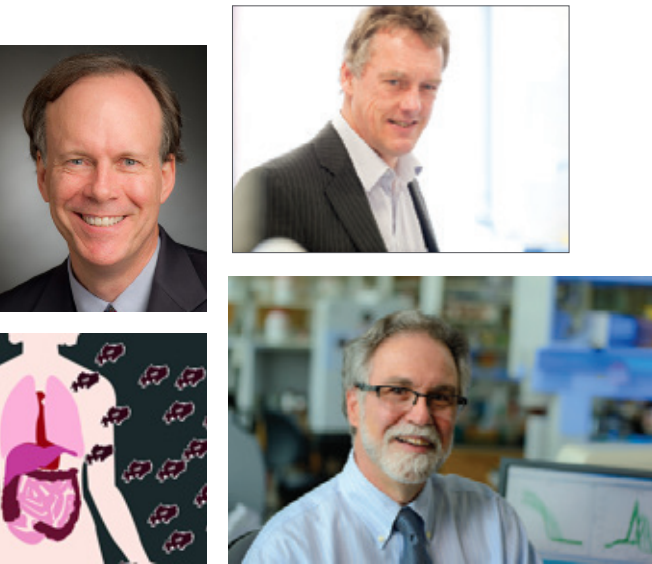
Thank you,


Claire Pomeroy,
President


Mike Overlock,
Chair

Awards Program

PLEASE join us in congratulating our 2016 Lasker Award winners recognized for their outstanding research in areas that most impact human health.



Albert Lasker Basic Medical Research Award

For the discovery of the pathway by which cells from humans and most animals sense and adapt to changes in oxygen availability – a process essential for survival.

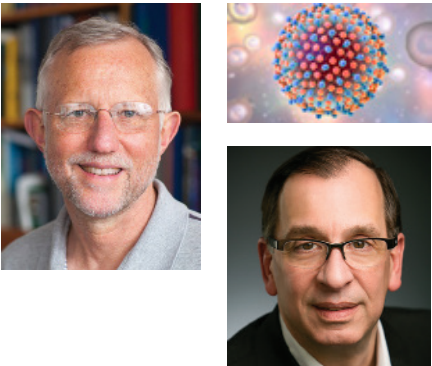
William G. Kaelin, Jr.: Dana-Farber Cancer Institute, Harvard Medical School
Peter J. Ratcliffe: University of Oxford, Francis Crick Institute
Gregg L. Semenza: Johns Hopkins University School of Medicine



Lasker~Koshland Special Achievement Award in Medical Science

For fundamental discoveries in DNA replication and protein biochemistry; for visionary leadership in directing national and international scientific organizations to better people’s lives; and for passionate dedication to improving education in science and mathematics.

Bruce M. Alberts: University of California, San Francisco



Lasker~DeBakey Clinical Medical Research Award

For the development of a system to study the replication of the virus that causes hepatitis C and for the use of the system to revolutionize the treatment of this chronic, often lethal disease.

Ralf F.W. Bartenschlager: Heidelberg University
Charles M. Rice: Rockefeller University
Michael J. Sofia: Arbutus Biopharma



Left to right: Alfred Sommer (Board member); Gregg Semenza, William Kaelin, Peter Ratcliffe (winners of the Albert Lasker Basic Medical Research Award); Claire Pomeroy (President)

The 2016 Lasker Award winners were announced on September 13, and the Awards were presented on Friday, September 23, at the Pierre Hotel in New York City.



Left to right: Joseph Goldstein (Chair of the Jury), Bruce Alberts (winner of the Lasker~Koshland Special Achievement Award in Medical Science)



Left to right: Charles Rice, Ralf Bartenschlager, Michael Sofia (winners of the Lasker~DeBakey Clinical Medical Research Award)



A free public lecture co-hosted with the Secret Science Club held at The Bell House in Brooklyn, New York

Lectures

LASKER PUBLIC LECTURE IN HONOR OF AL SOMMER

How does understanding the molecular mechanisms that cause cancer contribute to improving prevention, diagnosis, and treatment of this devastating disease? In what ways can public policy, government funding, and action by private citizens contribute to reducing the impact of cancer?

These and other questions were addressed by Harold Varmus at the 2016 Lasker Public Lecture in honor of Al Sommer, which attracted nearly 400 attendees for an evening of informal learning and an opportunity to ask questions. Varmus's career in research science and public service has led him from a laboratory at the University of California,

San Francisco to the positions of director of the National Institutes of Health, president of Memorial Sloan Kettering Cancer Center, and director of the National Cancer Institute. Now at Weill Cornell Medical College, Varmus is a recipient of the 1982 Albert Lasker Basic Medical Research Award and the 1989 Nobel Prize in Physiology or Medicine.

The free public lecture was held on August 9 at The Bell House in Brooklyn, New York, and was co-hosted with the Secret Science Club – a science lecture, arts, and performance series. The annual Lasker Public Lectures are an exciting initiative that creates a direct dialogue between the public and some of the most accomplished scientists in the world.

This special lecture was supported by an anonymous donation made in honor of Lasker Foundation board member Alfred (Al) Sommer, recipient of the 1997 Albert Lasker Clinical Medical Research Award and epidemiologist and dean emeritus at Johns Hopkins Bloomberg School of Public Health.



Left to right: Alfred Sommer and Harold Varmus

APSA LECTURE

Michael Brown, director of the Jonsson Center for Molecular Genetics at the University of Texas Southwestern Medical School, delivered the 2016 Lasker APSA Lecture at the annual meeting of the American Physician Scientists Association on April 15. Brown discussed the importance of science prizes, positing that prizes should not be the goal of scientific research: "In science the goal is to discover truth. Prizes are a pleasant afterthought." He pointed out, however, that science prizes can be beneficial in showing the world that society values scientific discovery.

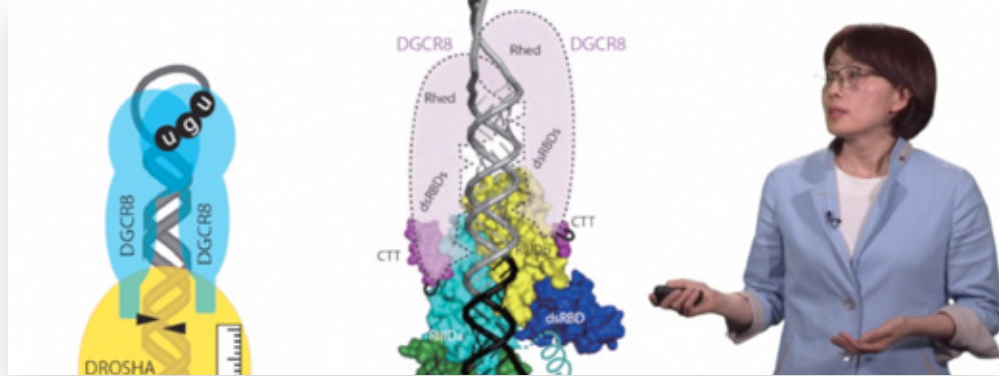
Brown is a recipient of the 1985 Lasker Basic Medical Research Award and the 1985 Nobel Prize in Physiology or Medicine for studies regarding receptor-mediated regulation of blood cholesterol. This lecture was produced as part of the partnership between the Lasker Foundation and the American Physician Scientist Association. The Lasker APSA lectures aim to provide mentorship and inspiration for the next generation of physician researchers.



Left to right: Jillian Liu, Michael Brown, Daniel Dello Stritto (APSA)

"As a trainee hunched over a laboratory bench, it is sometimes difficult to fathom how the work you are doing can impact human health. Dr. Michael Brown, a physician-scientist par excellence, was ideally suited to convey the importance of scientific research to human health for the 2016 Lasker APSA Lecture. His work has improved the lives of millions who suffer from cardiovascular diseases, and he is a living example of the powerful impact physician-scientists can have. Truly inspirational for trainees!"

— Alexander Adami, President, APSA



From Top: Narry Kim, Greg Petsko, and Jennifer Doudna with Dan Rather

Partnerships

iBIOLOGY

2016 was an exciting year for the Lasker/iBiology partnership, with seven videos produced in the Lasker green-screen studio.



2016 YSS Winners (from left to right): Eric Hamilton, Michele LeRoux, Mohit Jolly, Julie Huang

Titia de Lange discussed telomeres and their role in aging and cancer. Gregory Petsko addressed the coming epidemic of neurodegenerative disease and what medical research can do about it. Tom Maniatis (Lasker-Koshland Special Achievement Award laureate, 2012) spoke about fundamental mechanisms of transcription and RNA splicing in the nervous system. Jennifer Zallen's talk on developmental biology focused on the generation of tissue structure through the collective action of cell populations. David Allis discussed the ways in which chromatin structures are modified. Narry Kim outlined RNA-mediated gene regulation in stem cells, early embryos, neuronal systems, and cancer. The year's video series concluded with Torsten Wiesel, who spoke about his longtime collaboration with David Hubel and their famous 1958 experiment that helped establish specificity for cells in the primary visual cortex. Wiesel and Hubel are both recipients of the the 1981 Nobel Prize in Physiology or Medicine.

The Lasker Foundation also co-produced an iBiology video in which biochemist Jennifer Doudna spoke with journalist Dan Rather about new genome-editing technologies and their implications for science, medicine, and society.

The iBiology Young Scientist Seminar (YSS) video series, co-produced by iBiology, the Lasker Foundation, and the Alan Alda Center for Communicating Science at Stony Brook University, selected four winning science videos in 2016 as part of its annual competition in which graduate students and postdoctoral trainees give talks about their research and discoveries. The winners attended a workshop in San Francisco led by the Alan Alda Center that focused on science communication skills through improvisation, understanding one's audience, and making connections through storytelling. The seminar culminated with each participant making a video presentation, now available on the iBiology website.



INTERNATIONAL RETINAL RESEARCH FOUNDATION (IRRF)

In 2016, the Lasker/IRRF Initiative chronicled the results of its five-year assessment of the 2010 study of astrocytes and glaucomatous neurodegeneration. At that time, the possible role of astrocytes in glaucoma was unclear, and the report proposed a series of studies to elucidate their function. Based on research conducted in the past five years, it is now commonly accepted that astrocytes play a critical role in glaucoma pathophysiology. Assessment of the impact of the 2010 study report also highlighted key collaborations that provided important new insights into glaucoma as well as other age-associated neurodegenerative processes. A follow-up report addressing these topics is being published in *Experimental Eye Research*.

In March, the Initiative held a meeting on amblyopia at which 60 participants examined topics arising from two 2015 amblyopia workshops. Discussion included challenges in classification of the disorder and an assessment of the variety of abnormalities associated with the condition. Participants are currently developing a final report expected to be published in early 2017 in the journal *Visual Neuroscience*.

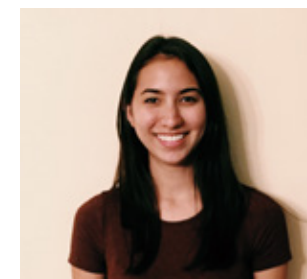


SCIENCE PHILANTHROPY ALLIANCE

In July, the Lasker Foundation was pleased to announce its membership in the Science Philanthropy Alliance. The Alliance's mission is to increase private funding for basic science research by providing advice and learning opportunities for individual philanthropists and foundation staffs on how to support basic research most effectively. The Science Philanthropy Alliance was founded in 2012 by six organizations: the Howard Hughes Medical Institute, the Kavli Foundation, the Simons Foundation, the Alfred P. Sloan Foundation, the Gordon and Betty Moore Foundation, and Research Corporation for Science Advancement. With new members joining, the Alliance has grown its membership in the last year from 6 to 17.

Internship Program

In 2016, the Lasker Foundation was pleased to invite college and graduate students to join the team. Evelyn Litwinoff continued her internship, which started in 2015, writing and creating new types of media such as podcasts and digital images. Julia Schluger joined for a summer internship and helped with social media, assisted with the Lasker fall newsletter, and conducted research on the history of the Lasker Awards. Angelique Schulfer joined our team in November to help the Foundation with its social media presence.



From Top Clockwise: Evelyn Litwinoff, Angelique Schulfer, Julia Schluger

Education

LESSONS IN LEADERSHIP

Three outstanding lectures marked the second year of the Lasker Lessons in Leadership program.

The first lecture of the year took place on January 14 and was given by Linda Fried, dean of Columbia University’s Mailman School of Public Health. In her talk about leadership and communication in science and health, she addressed questions on multiple topics, such as how we can cultivate and inspire leadership in clinical and research scholars. The talk was followed by a panel discussion during which students asked questions about communicating science to the public, translating complex scientific facts into an effective and clear message, and communicating research advances to people who are skeptical about the merits of science. In addition to Fried, participants on the panel included Michele Hogan (American Association of Immunologists), Tom Wynn (NIH), and Linda Huynh (NIH). In the afternoon, Fried, who is a prominent investigator in epidemiology and geriatrics, presented her research into increased frailty and decreased resilience with aging.

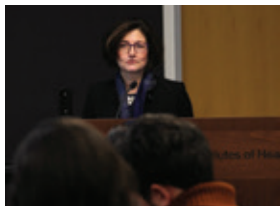
Craig Thompson, president and CEO of Memorial Sloan Kettering Cancer Center, was the keynote speaker for the second Lasker Lessons in Leadership talk, which took place on March 31. He discussed the difference between leadership and management. The talk was followed by a mentor panel discussion that included Craig Thompson, John Niederhuber (Johns Hopkins, INOVA), Christina Annunziata (NIH), and Marshall Fordyce (then Gilead Sciences, presently Kleiner, Perkins, Caufield, and Byers). In the afternoon, Thompson, who is a leader in the fields of cancer biology and immunology, gave a scientific talk describing the genes involved in tumor development and discussed cancer-related metabolic processes.

The final lecture of the year, “Advice for Young Scientists,” was given by Lasker Juror Jeremy Nathans, professor in the Departments of Molecular Biology and Genetics, Neuroscience, and Ophthalmology at Johns Hopkins University School of Medicine. The event took place on November 9. The talk was followed by a panel discussion, which included Nathans, Karen Midthun (FDA), Hari Shroff (NIH), and Kathy Zoon (NIH). In the afternoon, Nathans, renowned for his work in molecular genetics, gave a scientific talk on the role of a specific family of proteins in mammalian development and disease.

The lectures took place on the National Institutes of Health (NIH) main campus in Bethesda, Maryland. The morning talks and panel discussions were available to the public *via* free live webcast. The series is developed in collaboration with the International Biomedical Research Alliance and the NIH/Oxford Cambridge Scholars Program.

NIH LASKER CLINICAL RESEARCH SCHOLARS

This highly competitive joint initiative between the National Institutes of Health (NIH) and the Lasker Foundation provides talented, early-stage researchers the opportunity to carry out independent clinical and translational research for five to seven years at the NIH. Current Lasker Clinical Research Scholars are: Andrea Apolo (NCI CCR), Hans Ackerman (NHLBI), Falk Lohoff (NIAAA), Nehal Mehta (NHLBI), Jessica Gill (NINR), Rebecca Brown (NIDDK), Christian Hinrichs (NCI CCR), Beth Kozel (NHLBI), Armin Raznahan (NIMH), and Natalie Shaw (NIEHS).



From Top: Jeremy Nathans, Linda Fried, Craig Thompson, round-table discussion, panelists John Niederhuber, Marshall Fordyce, Christina Annunziata, and Craig Thompson



BREAKFAST AT LASKER

The 2016 Breakfast at Lasker event took place the morning of the Awards Ceremony and welcomed junior scientists to join the winners of the 2016 Lasker Awards for an informal discussion. Participants included the NIH/Lasker Scholars, NIH Oxford/Cambridge Scholars, and the Lasker Essay Contest winners. Questions and discussions centered around science career paths, leadership, and the importance of pursuing one’s scientific vision. Bruce Alberts, the winner of the 2016 Lasker-Koshland Special Achievement Award in Medical Science urged the young scholars not to ask small questions but go for big problems. Other laureates shared their own experience with overcoming obstacles on their road to discovery and their passion for their research.

“Recommendations from the laureates were constructive and priceless,” said Randi Balletta, president of the International Biomedical Research Alliance.

The event was moderated by Lasker board member Jordan Gutterman.



Therese Woodring (Korndorf) (second place) is a second-year medical student at the University of Illinois College of Medicine at Peoria. Before beginning her clinical rotations, Tess is taking a year off to participate in the 2016–2017 Medical Research Scholars Program at the US National Institutes of Health in Bethesda, Maryland.

Essay: *Hacking the bacterial social network: quorum sensing and the future of microbial management*

LASKER ESSAY CONTEST

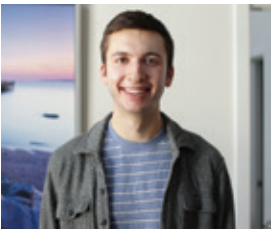
Now in its third year, the Lasker Essay Contest was created to engage young scientists and clinicians in a discussion about the big questions in biology and medicine and the role of biomedical research in our society today. The contest aims to build skills in communicating important medical and scientific issues to broader audiences.

Participants in the 2016 contest were asked to consider *which fundamental discoveries in basic medical research have not been clinically explored and translated into better human health.*

The contest was open to medical school students, interns, residents, and fellows; doctoral students and postdoctoral fellows in biomedical research; graduate students in public health programs; and graduate students in other health professions programs.

The winners received monetary prizes to be used towards educational expenses and were invited to New York to meet the 2016 Lasker Award winners during the Awards Ceremony on September 23.

David Ottenheimer (first place) is a PhD student in the Solomon H. Snyder Department of Neuroscience at the Johns Hopkins School of Medicine. At Johns Hopkins,



he studies the neural circuits that encode rewarding stimuli.

Essay: *Modern neuroscience has the tools to treat psychiatric illness*

“Winning the essay contest was such an honor. I’m grateful for the opportunity that the Lasker Foundation provided for me and the other winners to share our ideas about the scientific and medical fields.”
— David Ottenheimer, first-place winner



Unikora Yang (third place) is a first-generation Korean- American from New York City. She is currently a pediatrics resident at Children’s Hospital Los Angeles and plans to pursue fellowship training in neonatology.

Essay: *The cutting edge of DNA editing: translating CRISPR to improve human health*

Communications



Bruce Alberts, image capture from Lasker Award video materials created by Flora Lichtman

In 2016, coverage of the Lasker Awards was provided in both traditional and social media, including creative video materials by videographer Flora Lichtman.

In February, we were pleased to launch the Foundation's newly redesigned website, which features an attractive and user-friendly layout, allowing more intuitive browsing of all our content, including our rich record of Lasker Awards, programs, partnerships, and news.

The Lasker Foundation began publishing a newsletter for the Lasker community in which we curate the most exciting news from our programs, initiatives, and advocacy work. The newsletter also features interviews with past Lasker laureates, conversations with scientific thought leaders, and articles highlighting important topics and discussions from the world of biomedical research.

The Foundation also gained many new social media followers on Facebook and Twitter.



Nancy Wexler, image from Lasker 2016 fall newsletter

Advocacy

Lasker president Claire Pomeroy gave a number of talks at universities, medical schools, science summits, and radio shows advocating for biomedical research and raising awareness about social determinants of health and gender equality issues.

In an article called "Cancer, this time it's personal. How Lasker Award winners saved my life," Pomeroy described for Fox News Opinion her personal experience with cancer and how the diagnostic technologies developed by former Lasker laureates saved her life (February 29, 2016).

Drawing on lessons learned from pandemics such as Ebola, Zika, and HIV/AIDS, Pomeroy urged sustained, proactive investment in vaccine research to prepare us for future outbreaks in her CNBC article "Here's how we prevent the next killer virus" (April 4, 2016).



Donors

In grateful appreciation to the following donors to the Lasker Foundation in 2016

Anonymous
Bloomberg Philanthropies
The Estate of Frances Lasker Brody
The DeBakey Medical Foundation
The International Retinal Research Foundation
The Daniel E. Koshland, Jr. Fund
O'Donnell Foundation
Barbara Barrett
Christopher and Barbara Brody
Ewing Butler
John and Kelly Considine
Anthony and Judith Evnin
James and Anne Fordyce
Marshall and Saraleah Fordyce
Joseph L. Goldstein
Jordan Gutterman
Christopher Jones
Kazuo and Yoko Komuro
Sherry Lansing – in memory of Andrew Rinaldi
George P. Noon
Trina and Mike Overlock
Claire Pomeroy and William Preston Robertson
George A. Roche
Solomon H. Snyder

Alfred and Jill Sommer
Russell W. Steenberg and Patricia M. Colbert
Robert Tjian
Elias and Nadia Zerhouni

The Lasker Foundation thanks Robert Tjian and the Howard Hughes Medical Institute for in-kind contributions.

Lasker Society Members

Mrs. William McCormick Blair, Jr.
*Mr. William McCormick Blair, Jr.
Christopher and Barbara Brody
*Frances Lasker Brody
Susan Lasker Brody
W. Michael Brown
Purnell W. Choppin
John J. Connolly
*Robert Cullen
*Michael E. DeBakey
*Robin Chandler Duke
James and Anne Fordyce
William and Neen Hunt
*Daniel E. Koshland, Jr.
Trina and Mike Overlock
Paula Simon
Solomon Snyder
Alfred and Jill Sommer
Martin Tolchin
*Deceased

The Lasker Society accepts deferred gifts through estate planning. For more information, please contact us.

To make a donation, please visit our website at www.laskerfoundation.org/donations or contact Courtney Nandagiri (212-286-0222 or cnandagiri@laskerfoundation.org)

Leadership



BOARD OF DIRECTORS

Left to right: Christopher Brody, Chris Jones, John Considine, Anthony Evnin, James Fordyce (Chair Emeritus), Barbara Barrett, Willard Overlock, Claire Pomeroy, Sherry Lansing, Alfred Sommer, Solomon Snyder, Russell Steenberg, Robert Tjian, Elias Zerhouni

Not pictured: Marshall Fordyce, Joseph Goldstein, Jordan Gutterman, George Noon, George Roche



IN MEMORIAM: HAROLD EHRLICH

Harold Ehrlich, economist, money manager and financial advisor, joined the Lasker Investment Committee in 2006 and served as a trusted advisor to the committee over the next ten years. His expertise, and his frank and forthright opinions were much valued and will be missed.



LASKER MEDICAL RESEARCH AWARDS JURY

Seated, left to right: J. Michael Bishop, University of California, San Francisco • Charles Sawyers, Memorial Sloan Kettering Cancer Center • Lucy Shapiro, Stanford University • Joseph Goldstein, Chair of the Jury, University of Texas Southwestern Medical Center • Robert Horvitz, Massachusetts Institute of Technology • Erin O'Shea, Howard Hughes Medical Institute • Richard Locksley, University of California, San Francisco

Standing, left to right: Marc Tessier-Lavigne, Stanford University • Dan Littman, NYU Langone Medical Center • Tom Maniatis, Columbia University • Christopher Walsh, Harvard University • Craig Thompson, Memorial Sloan Kettering Cancer Center • Titia de Lange, Rockefeller University • Gregory Petsko, Weill Cornell Medical College • Huda Zoghbi, Baylor College of Medicine • Bruce Stillman, Cold Spring Harbor Laboratory • Cori Bargmann, Rockefeller University • James Rothman, Yale University • Jeremy Nathans, Johns Hopkins School of Medicine • Paul Nurse, Francis Crick Institute • Harold Varmus, Weill Cornell Medical College • Michael Brown, University of Texas Southwestern Medical Center

Not pictured: Richard Lifton, Rockefeller University

Looking Ahead

LASKER AWARDS

The 2017 Lasker Award winners will be announced in early September, and the Awards will be presented on Friday, September 15, at the Pierre Hotel in New York City.

LECTURES

The 2017 Lasker APSA Lecture will be presented by Lasker laureate and board member Solomon Snyder at the American Physician Scientists Association annual conference in Chicago on April 21. Snyder won the 1978 Albert Lasker Basic Medical Research Award for delineating the mechanisms of action of opiate drugs. He is a Professor of Neuroscience at Johns Hopkins University.

There will be two university lectures in 2017. The first will take place on April 12 at Duke University and will be given by William Kaelin, the recipient of the 2016 Albert Lasker Basic Medical Research Award. The second lecture will take

place on April 18 at Virginia Commonwealth University and will be given by Bruce Alberts, the winner of the 2016 Lasker-Koshland Special Achievement Award in Medical Science.

LESSONS IN LEADERSHIP

Lessons in Leadership will continue in 2017 with a talk on Friday, March 8, given by Regis Kelly, the director of QB3 Institute in San Francisco. QB3 is one of four California Institutes for Science and Innovation, and is devoted exclusively to biology and the life science industries. The talk will take place on the NIH main campus in Washington, DC.

ESSAY CONTEST

The 2017 Lasker Essay contest will open on February 6. Winners of the contest will be announced in late June.

ALBERT AND MARY LASKER FOUNDATION

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