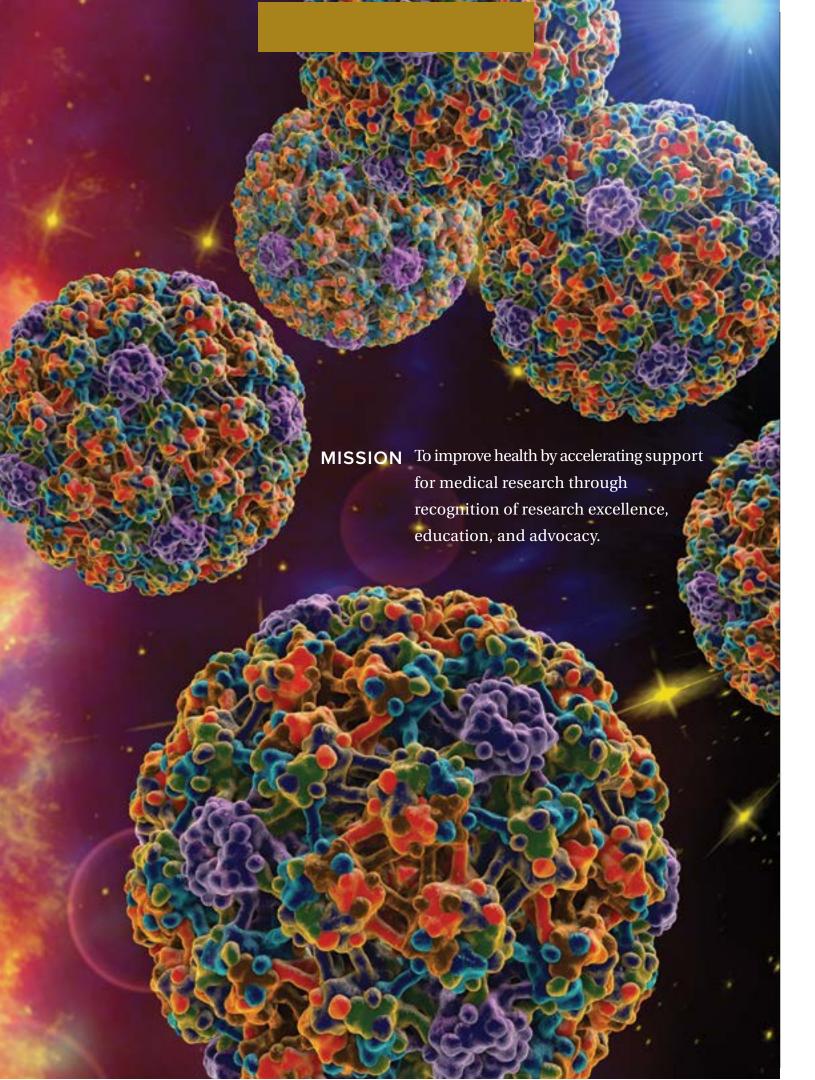
ALBERT AND MARY LASKER FOUNDATION





The advances in science and public service

honored with Lasker Awards in 2017 serve as luminous examples of the ways in which biomedical research benefits us all. This year's Lasker Laureates revealed fundamental aspects of life and cell growth, contributed to the prevention of one of the most common cancers among women worldwide, and spearheaded efforts to provide essential health services and reproductive care for all.

To continue to reap the fruits of medical research in the years to come, we must ensure robust funding for science. Never has research held more hope for improving human lives. A sustained federal budget for biomedical research, and strong investments from industry and philanthropy are essential. We must not allow today's political climate to erode the public's appreciation of science or threaten needed funding. More than ever, we must now come together to call for increased support for biomedical research.



With this objective in mind, the Lasker

Foundation launched a multifaceted advocacy campaign that included two full-page printed advertisements placed in the *New York Times* and *USA Today*, leveraged by social media posts. The advertisements called for sustained, robust funding for biomedical research to improve lives and build a healthier world. They were signed by 123 Lasker Laureates and 88 organizations representing millions of patients. We then invited everyone to share their stories of how research has impacted their lives or those of their loved ones using #ResearchSavedMe on Twitter, Facebook, and Instagram. We also ask you to join #ResearchSavedMe and tell your story.

Garnering support for medical research depends on continuously raising professional and public awareness and understanding of life-changing scientific advances. This year we presented a range of programs for scientists and medical professionals, as well as the general public. We invite you to read more about the Foundation's work and accomplishments in 2017 in this annual report.

The success of our mission to improve health by accelerating support for medical research has been possible thanks to the dedication and commitment of our partners, and the encouragement of the entire Lasker community.

We wish you a happy and healthy year in 2018!

Thank you,

Claire Pomeroy,

President

Mike Overlock,

Chair

Awards Program

Please join us in congratulating our 2017 Lasker Award winners whose research breakthroughs have had a profound impact on human health.





Albert Lasker Basic Medical Research Award

For discoveries concerning the nutrient-activated TOR proteins and their central role in the metabolic control of cell growth.

Michael N. Hall: Biozentrum, University of Basel



Lasker~Bloomberg **Public Service Award**

For providing essential health services and reproductive care to millions of women for more than a century.







Lasker~DeBakey Clinical Medical Research Award

For technological advances that enabled development of HPV vaccines for prevention of cervical cancer and other tumors caused by human papillomaviruses.

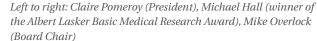
Douglas R. Lowy: National Cancer Institute John T. Schiller: National Cancer Institute



Parenthood), John Schiller and Douglas Lowy (winners of Lasker-DeBakey Clinical Medical Research Award)

The 2017 Lasker Award winners were announced on September 6, and the Awards were presented on September 15, at the Pierre Hotel in New York City.







Left to right: Pati Murillo Casa (cervical cancer survivor), John Schiller (winner of Lasker~DeBakey Clinical Medical Research Award), Freddie Casa (Pati's husband)

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William Kaelin with students from the City Academy of Medicine high school in Durham

Lectures

UNIVERSITY LECTURES

William Kaelin, Jr., recipient of the 2016 Albert Lasker Basic Medical Research Award for his work in oxygen sensing, talked at Duke University on April 12. He addressed one of the most fundamental mysteries of life: how organisms sense and adapt to changes in oxygen availability, and what happens when something goes wrong with this essential process. Earlier that day, Kaelin discussed his experience as a research scientist with students at the City Academy of Medicine in Durham, North Carolina, a high school dedicated to preparing students for careers in health sciences.



Marsha Rappley (VCU), Bruce Alberts, Michael Rao (VCU), Claire Pomeroy

A university lecture was also given at Virginia Commonwealth University (VCU) on April 18 by Bruce Alberts, who received the 2016 Lasker~Koshland Special Achievement Award for his discoveries in DNA replication, and leadership in science and education. His talk, titled "Keeping Science and Society Healthy: Challenges for Scientists," focused on science communication and science literacy. After the talk, Alberts answered questions from young scientists pursuing scientific careers.

LASKER PUBLIC LECTURE IN HONOR OF AL SOMMER

How, when, and why do viruses jump to new species? Are viruses alive, and can they be harnessed as cures for dangerous bacterial infections? These questions were answered by evolutionary biologist and virologist Paul Turner at this year's free public lecture titled "Viruses: the Good, the Bad, and the Ugly" held on October 25 at the Bell House in Brooklyn and co-hosted with the Secret Science Club. This public 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 dean emeritus at Johns Hopkins Bloomberg School of Public Health.



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



Jillian Liu (APSA), Moshe Levi (APSA), Alexander Adami (APSA), Solomon Snyder, Mariam Bonyadi Camacho (APSA), Hanna Erickson (APSA), Claire Pomeroy

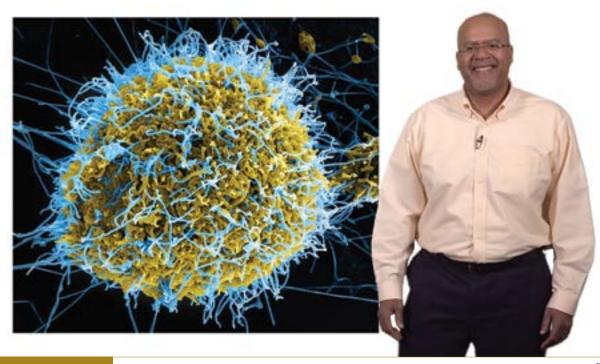
APSA LECTURE

Solomon Snyder, Distinguished Service Professor of Neuroscience, Pharmacology and Psychiatry at the Johns Hopkins University School of Medicine, delivered the 2017 Lasker APSA Lecture at the annual meeting of the American Physician Scientists Association on April 21.

Snyder emphasized the key role that MD/PhD students play in his laboratory. He is the recipient of the 1978 Albert Lasker Basic Medical Research Award for his work on opiate receptors. "The opportunity to hear from inspiring physician-scientists like Dr. Snyder is invaluable to trainees. Dr. Snyder's work serves as an example to aspiring physician-scientists of how much their efforts can advance science and human health."

- Jillian Liu, President, APSA

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Paul Turner

Partnerships



2017 YSS winners (from left to right): Tyler Allen, Katie Thompson-Pier, Eleanor Bath, Aaron Pomerantz

iBIOLOGY

Two Lasker/iBiology videos were produced in the Lasker green-screen studio. Paul Turner described the fundamental biology of viruses and discussed using phage therapy to treat bacterial infections.

Ruslan Medzhitov discussed how the inflammatory response protects the body from infection and injury, and helps keep it in equilibrium.

In partnership with iBiology and the Alan Alda Center for Communicating Science, the Lasker Foundation supported the Young Scientist Seminars (YSS) annual competition. The four winners, Tyler Allen (North Carolina State University), Eleanor Bath (Oxford University), Aaron Pomerantz (University of California, Berkeley), and Katie Thompson-Peer (University of California, San Francisco) had the opportunity to improve their science communication skills at a workshop specifically designed for them.



Science Philanthropy Alliance members' meeting at the National Academy of Sciences, December 14-15.



SCIENCE PHILANTHROPY ALLIANCE

The Lasker Foundation was an active participant in the Science Philanthropy Alliance, joining a broad coalition of foundations to support basic science. We participated in 4 membership meetings in 2017 where strategies to increase support for basic science were discussed. In addition, the Foundation also attended the Research Partners Conference organized by the Alliance where representatives of research institutions learned more about potential partnerships with philanthropic organizations.



In October, communication specialists from member organizations met to share ideas and discuss opportunities for collaboration. The meeting was held at the Simons Foundation in New York, one of the Alliance's founding members.

At the year-end meeting, Alliance members heard from Senator Chris Coons (D-Delaware) and Representative John Culberson (R-Texas) about their work to support science, and an impressive slate of experts including leaders from the NIH (Francis Collins), NSF (Frances Cordova), OSTP (Michael Kratsios), AAU (Mary Sue Coleman), and APLU (Peter McPherson) discussed ways to effectively work with Congress and others to increase research funding.



INTERNATIONAL RETINAL RESEARCH FOUNDATION (IRRF)

The Lasker/IRRF Initiative for Innovation in Vision Science published two reports this year — an overview titled "Amblyopia: Challenges and Opportunities" and a five-year follow-up of the 2010 Initiative on Astrocytes and Glaucomatous Neurodegeneration. The first report, published in March, examined challenges facing investigators studying amblyopia and described proposals to improve diagnosis, treatment, and prevention of this disease. The second report appeared in April as a special edition of *Experimental Eye Research*. It assessed how the Initiative has stimulated innovative glaucoma research and discussed major questions still confronting the field today.

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Education

LASKER ESSAY CONTEST

For the first time, this year the Lasker Essay Contest was open to students from programs both within and outside the United States. The essay contest was created in 2014 to engage young scientists and clinicians in a conversation about the big questions in biology and medicine and the role of biomedical research in our society. The contest aims to build skills in communicating important medical and scientific issues to broader audiences.

Participants in the 2017 contest were asked to propose ways in which breakthroughs in biomedical research can be made part of the daily global dialogue, so that a much wider public becomes better informed and more supportive of biomedical research endeavors.

The winners received monetary prizes to be used towards educational expenses and were invited to New York to meet the 2017 Lasker Award winners during the Awards Ceremony on September 15.



"I was absolutely ecstatic to win the Lasker Essay Contest! This year's topic really excited me."

— Abigail Cline, first-place winner

Abigail Cline (first place) is an intern at the Medical College of Georgia. She holds a PhD in biochemistry from the University of Georgia and an MD from the Medical College of Georgia. Her research and clinical interests are in medical ethics and dermatology. Essay: *Science and Cinema: From the Benchtop to the Big Screen*



Tammy Tran (second place tie) is a PhD candidate in the Psychological and Brain Sciences Program at The Johns Hopkins University. She uses functional neuroimaging to investigate changes in memory function

in aging and Alzheimer's disease. Essay: Science Is Everywhere: Unexpected Science Encounters in the Course of Everyday Life



Michael Wu (second place tie) is a medical student at Harvard Medical School in the Harvard-MIT Division of Health Sciences. Wu studies cancer biology. Essay: Search for Science: Smart Search-Linked Discussion Forums

Honorable Mentions



Jennifer Bratburd is a PhD candidate in the Microbiology Doctoral Training Program at the University of Wisconsin, Madison. She studies how the human gut microbiota interacts with pathogens. Essay: *Breaking*

Through Barriers to Science With Citizen Science



Apurva Lunia is a final year medical student at Mahatma Gandhi Medical College in Jaipur, India. She is currently the National Public Health Officer for the Medical Students

Association of India. Essay: Dissemination

of Biomedical Research via Multimedia Platforms Using Existing Healthcare Frameworks



Jessica Sagers is a rising fourth-year PhD student in the Program in Speech and Hearing Bioscience and Technology in the Division of Medical Sciences at Harvard Medical School. Jessica investigates novel drug therapies

for vestibular schwannoma and neurofibromatosis type 2. Essay: Let's Get Real: (Re)making Scientists Into People



Regis Kelly (middle) with Lasker Lessons in Leadership organizers and participants

LESSONS IN LEADERSHIP

Regis Kelly, the director of QB3, one of the four California Institutes for Science and Innovation was the keynote speaker at the March 8 Lasker Lessons in Leadership program. He discussed the benefits of creating private-public research partnerships in his talk titled: "Academia and the Private Sector — An Odd Couple"

On November 30, Anne Schuchat, principal deputy director at the Centers for Disease Control and Prevention, and a rear admiral of the US Public Health Service, gave a talk titled: "International Medicine and Global Health." She discussed highlights in her career that shaped her professional path.

Each talk was followed by a mentor panel discussion. The Lessons in Leadership lectures are developed in collaboration with the International Biomedical Research Alliance and the National Institutes of Health (NIH) Oxford-Cambridge Scholars Program.



Anne Schuchat

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Education (cont'd)



BREAKFAST AT LASKER

The Breakfast at Lasker event, held September 15, convened junior scientists with 2017 Lasker Awards winners for a spirited discussion. Participants included NIH/Lasker Scholars, NIH Oxford/Cambridge Scholars, and Lasker Essay Contest winners. The group also included George D. Yancopoulos, president and chief scientific officer of Regeneron. The event was moderated by Lasker board member Jordan Gutterman.

INTERNSHIP PROGRAM

Since 2015, Evelyn Litwinoff has contributed to the Lasker Foundation by creating podcasts, designing digital images and interactive maps for the Lasker website, and assisting with newsletter production and advocacy initiatives. Anjelique Schulfer, who joined our team in November 2016, and Alexandra Ambrico, who joined in June this year, created social media content and participated in other communications projects. Summer intern Margaret Voorhees helped launch our advocacy campaign in support of medical research funding.









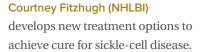


From Top Left (clockwise): Alexandra Ambrico, Cold Spring Harbor Laboratory; Anjelique Schulfer, New York University School of Medicine; Evelyn Litwinoff, New York University School of Medicine; Margaret Voorhees, Columbia University

NIH Lasker Clinical Research Scholars

Five new scholars joined this highly competitive initiative, a partnership between the National Institutes of Health (NIH) and the Lasker Foundation. The program provides talented, early-stage researchers the opportunity to carry out independent clinical and translational research for five to seven years at the NIH.

Christine Alewine (NCI) conducts clinical trials in patients with advanced pancreatic cancer.



Jung-Ming Lee (NCI) conducts clinical trials in women who have recurrent ovarian cancer.

Frank Lin (NCI) uses targeted radionuclide therapy to treat cancer.

Anish Thomas (NCI) focuses on clinical and translational research on small-cell lung cancer.







1. Christine Alewine, 2. Anish Thomas, 3. Courtney Fitzhugh, 4. Jung-Min Lee, 5. Frank Lin





The new scholars join the 10 previously selected Lasker Clinical Research Scholars: Andrea Apolo (NCI); Hans Ackerman (NHLBI); Rebecca Brown (NIDDK); Jessica Gill (NINR); Christian Hinrichs (NCI); Beth Kozel (NHLBI); Falk Lohoff (NIAAA); Nehal Mehta (NHLBI); Armin Raznahan (NIMH); and Natalie Shaw (NIEHS).

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People tell the Lasker Foundation ways in which medical research touches their lives.

"If you think research is expensive... try disease."

Join us in supporting funding for biomedical research.

www.laskerfoundation.org/advocacy

Print advertisement placed in the New York Times on April 25, 2017

"If you think research is expensive... try disease." in support of sustained, robust funding for medical research to sav Join us in supporting funding for medical research.



Tell your story using #ResearchSavedMe

Print advertisement placed in USA Today on October 4, 2017

Advocacy



Colleen Hagan Gabrish was diagnosed with a dedifferentiated retroperitoneal liposarcoma. Today she is able to say #ResearchSavedMe. This post was shared widely via social media, along with others telling their stories.

RESEARCH FUNDING INITIATIVE

The Lasker Foundation launched a campaign encouraging support of medical research funding. In the spring, Lasker Laureates signed a full-page advertisement that ran in the *New York Times* on April 25, with the following message: "We are 123 Lasker Laureates united in support of sustained, robust funding for biomedical research to improve lives and build a healthier world." It featured Mary Lasker's quote:

"IF YOU THINK RESEARCH IS EXPENSIVE... TRY DISEASE."

In the fall, the call for support came from groups and organizations representing the true beneficiaries of medical research — current and future patients. On October 4, a full-page advertisement appeared in USA Today listing 88 patient advocacy organizations that endorsed our initiative. An additional 3 organizations have subsequently joined

The Lasker Foundation invited the public to share stories about the way in which research has benefited them or their loved ones by posting stories, images, and videos on social media using #ResearchSavedMe.



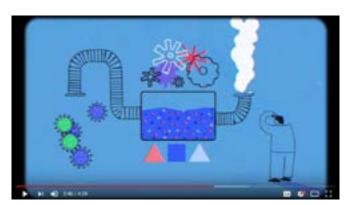
T-shirts further amplified Lasker's call for action.

OP-EDS

Lasker president Claire Pomeroy further disseminated the message of the campaign in an opinion piece for the Huffington Post titled "We All Need to Stand Up for the Medical Science That Yields the Miracles." Pomeroy argued that to improve our futures and those of our families, everyone should join in the call to support research that improves health.

Other articles by Pomeroy included: "Health spending and medical research must address the social determinants of health." Huffington Post, January 31, 2017; "We must fight the deadly superbug threat with every tool we've got." Fox News, March 17, 2017; and "The war on drugs and the war on pain." Fox News, August 18, 2017.

Communications



Screen capture from the 2017 Lasker~DeBakey Clinical Medical Research Award video produced by Flora Lichtman

The 2017 Lasker Awards received wide coverage by both traditional and social media, and included the creative videos produced by Flora Lichtman. Stories appeared in national and international papers including: the Neue Zurcher Zeitung, The Los Angeles Times, The New York Times, The Wall Street Journal, The Washington Post, and the Yomiuri Shimbun. Scientific articles were published by Cell, JAMA, Science, Scientific American, The Lancet, The New England Journal of Medicine, and others.

This year the Lasker Foundation's newsletter expanded from a bi-annual to a quarterly publication, with a special fall edition providing detailed coverage of the Lasker Awards. Topics included systems medicine and research collaboration (spring), young scientists and women in science (summer), and advances in diagnostic technologies (winter). Contributors to the 2017 newsletters included Princeton president emerita Shirley Tilghman and Lasker Laureates Leroy Hood, Susumu Tonegawa, Elizabeth Neufeld, Joseph Gall, and Yuet Wai Kan.

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Leadership



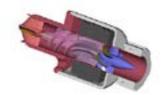
BOARD OF DIRECTORS

Left to right: Solomon Snyder, Elias Zerhouni, James Fordyce (Chair Emeritus), Sherry Lansing, Chris Jones, Willard Overlock, Russell Steenberg, Claire Pomeroy, Marshall Fordyce, Alfred Sommer, Christopher Brody, George Roche, Anthony Evnin, George Noon

Not pictured: Barbara Barrett, John Considine, Anthony Evnin, Joseph Goldstein, Jordan Gutterman, Robert Tjian

In the Spotlight: GEORGE NOON

George Noon has been a member of the Board of Directors of the Lasker Foundation since 2010. He is professor of surgery and Meyer-DeBakey Chair in Investigative Surgery at Baylor College of Medicine in Houston, Texas. In 1968, Noon and Michael DeBakey, a renowned heart surgeon and the first president of Baylor College of Medicine, together with their surgical team, performed their first heart and lung transplant. Noon soon became the leading surgeon for insertion of ventricular assist devices — a mechanical pump that supports heart function and blood flow in people who have weakened hearts. He spent the following decades improving the heart pump, in collaboration with DeBakey. News about the brilliant work of Noon and DeBakey travelled around the globe, and in 1996 the two surgeons were invited to come to Moscow to aid in the coronary bypass heart operation of Boris Yeltsin — then the president of Russia



Miniature axial flow blood pump developed in a collaboration between NASA engineers, George Noon, and Michael DeBakey. Credit: NASA

In 1988, Noon and DeBakey began a collaboration with engineers from NASA to develop a miniature heart pump to provide a continuous blood flow. The first MicroMed DeBakey-Noon human implants were performed in Berlin, Germany, in 1996. Three years later, Noon was inducted into the Space Technology Hall of Fame.

Noon is president of the DeBakey Medical Foundation, which endowed the Lasker~DeBakey Clinical Medical Research Award.

Noon's work has made a difference in the lives of heart patients around the globe and transformed our approach to treatment of cardiac disease.



LASKER MEDICAL RESEARCH AWARDS JURY

Seated, left to right: Xiaowei Zhuang, Harvard University • J. Michael Bishop, University of California, San Francisco • 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 • Paul Nurse, Francis Crick Institute

Standing, left to right: Jeffrey Friedman, Rockefeller University • Marc Tessier-Lavigne, Stanford University • Jeremy Nathans, Johns Hopkins School of Medicine • Charles Sawyers, Memorial Sloan Kettering Cancer Center • Bruce Stillman, Cold Spring Harbor Laboratory • Dan Littman, NYU Langone Medical Center • Harold Varmus, Weill Cornell Medical College • Titia de Lange, Rockefeller University • Richard Lifton, Rockefeller University • James Rothman, Yale University • Craig Thompson, Memorial Sloan Kettering Cancer Center • K. Christopher Garcia, Stanford University • Michael Brown, University of Texas Southwestern Medical Center • Richard Locksley, University of California, San Francisco • Christopher Walsh, Harvard University



2017 LASKER"BLOOMBERG PUBLIC SERVICE AWARD JURY

Chris Jones • Barbara Barrett • Alfred Sommer, Chair of the Jury • Sherry Lansing • Willard J. Overlock, Jr.

Not pictured: Robert Tjian • Elias Zerhouni

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DONOTS In grateful appreciation to the following donors to the Lasker Foundation in 2017

Anonymous Bloomberg Philanthropies The Estate of Frances Lasker Brody Brown Brothers Harriman The DeBakey Medical Foundation The International Retinal Research Foundation The Daniel E. Koshland, Jr. Fund O'Donnell Foundation The Pew Charitable Trusts

Craig and Barbara Barrett Christopher and Barbara Brody **Ewing Butler** Judith Ehrlich in memory of Harold Ehrlich 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 George P. Noon Trina and Mike Overlock Mrs. Frank Perdue Claire Pomeroy and William Preston Robertson George A. Roche Solomon H. Snyder Alfred and Jill Sommer Russell W. Steenberg and Patricia M. Colbert Elias and Nadia Zerhouni

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

Lasker Society Members

Mrs. William McCormick Blair, Jr. Christopher and Barbara Brody *Frances Lasker Brody Susan Lasker Brody W. Michael Brown Purnell W. Choppin John J. Connolly *Michael E. DeBakey 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.

Looking Ahead

LASKER AWARDS

The 2018 Lasker Award winners will be announced in early September, and the Awards will be presented on Friday, September 21, at the Pierre Hotel in New York City.

LECTURES

The 2018 Lasker APSA Lecture will be presented by Peter Ratcliffe at the American Physician Scientists Association annual conference in Chicago on April 20. Ratcliffe was the recipient of the 2016 Albert Lasker Basic Medical

In 2018, the Lasker Foundation will hold two University Lectures. The first one will be on April 25 at Texas A&M College of Medicine and will be presented by Roderic Pettigrew, the founding director of the National Institute of Biomedical Imaging and Bioengineering. The second lecture will take place at the University of Chicago and will be given by Jeffrey Friedman of the Rockefeller University and recipient of the 2010 Albert Lasker Basic Medical Research Award.

LESSONS IN LEADERSHIP

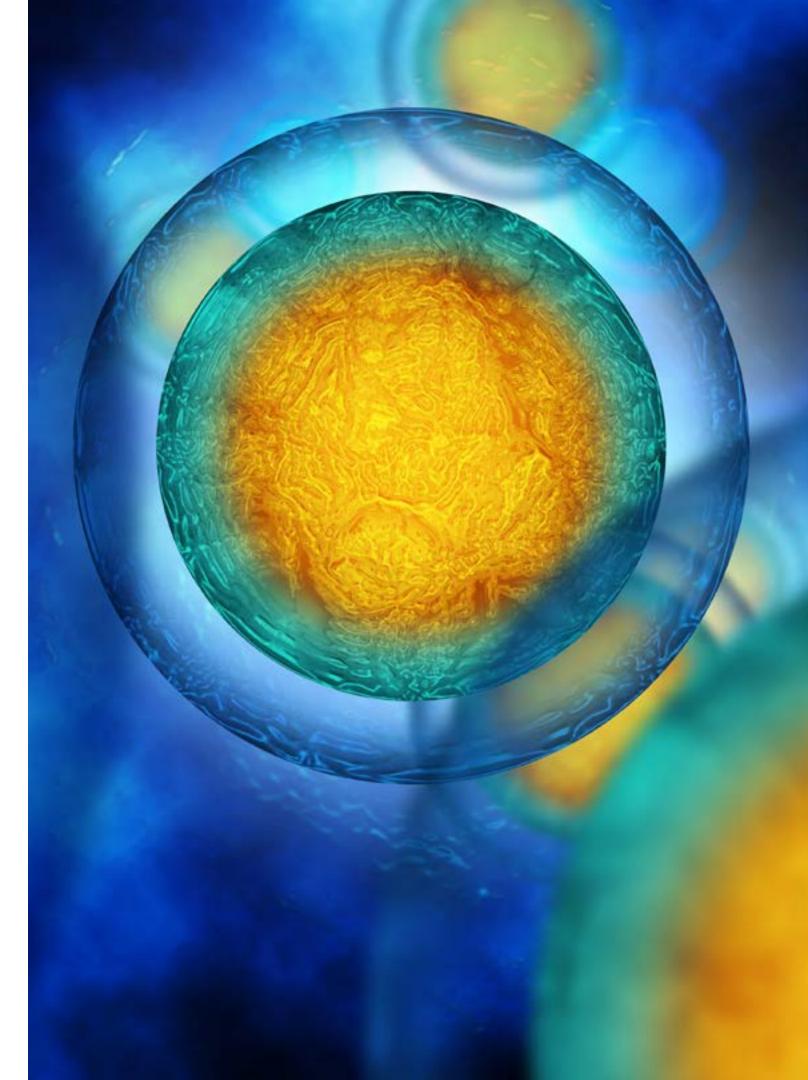
Mary Woolley, president of Research! America, will talk about science policy and advocacy on Friday, February 28.

ESSAY CONTEST

The 2018 Lasker Essay Contest will open in early February. Winners of the contest will be announced in late June.

LASKER/IRRF INITIATIVE

2018 concludes a 10-year fruitful collaboration with IRRE, during which a number of meetings, discussions, and reports helped accelerate research on sight-saving treatments and prevention. The initiative will hold a celebratory meeting on April 30 and May 1, in Hawaii.



ALBERT AND MARY LASKER FOUNDATION

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