

Annual Report 2023

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Research to Prevent Blindness

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ER: Daniel E. Maidana, MD, PhD, Assistant Professor of Ophthalmology at the

EYE ON THE PRIZE

Dear Friends of RPB,

Thank you for an incredible year! From our brilliant grantees to our dedicated supporters, we are lucky to be a non-profit with a wonderful network. Your commitment allows us to keep our eye on the prize: creating treatments, preventives, and cures for sight-threatening diseases.

For 64 years, we have been changing the eyecare field through research. Our founder, Dr. Jules Stein, was passionate about helping people with vision loss. He felt that he could have the biggest impact on sight-threatening conditions by identifying and funding the most promising scientific research aimed at eye diseases. We've never lost sight of that strategic directive.

We fund the best scientists, in the most effective labs, who are asking the most important questions. We do this through a rigorous grant application and review process. These methods allow us to put our funds into research that will make a difference in people's lives.

Every person with an eye condition who can still drive, see a loved one's face or read a book thanks to sight-saving research is a win for us. But we won't stop there. See our New Grants on page 6 for a look at the emerging or neglected areas we're funding now.

Did you know that all donations to RPB are directed only to research? And that we match donations up to a million dollars total each year?

In this way, we can assure our supporters that their focus on curing eye diseases is also our focus. Together, we will create a future where vision loss is a thing of the past—after all, sight is one of our most prized senses.

With gratitude,







Brian F. Hofland, PhD President

ON THE FRONT COVER: Daniel E. Maidana, MD, PhD, Assistant Professor of Ophthalmology at the University of Illinois Chicago College of Medicine, received an RPB Career Development Award in 2023. The scientific image is an adapted version of Dr. Maidana's laser confocal image of the retina. *Photo credit: Lauren Kalinoski/University of Illinois Chicago*

A MODEL IN SERVICE OF A MISSION

In 2023, RPB provided more than \$11 million in research grants to outstanding researchers across the country.

As a result, in one year, RPB was cited as a funder in 2,000+ new peer-reviewed articles in scientific journals, which communicated new knowledge to the field.

Our research portfolio includes:

- ✓ age-related macular degeneration (AMD)
 - <>> glaucoma
 - diabetic eye disease
 - retinal diseases
 - ✓ strabismus / amblyopia
 - corneal diseases
 - <>> low vision
 - <>> dry eye
 - uveitis / infectious diseases
 - <>> myopia

After all, high-impact research:

leads to the development of new treatments. preventives and cures 🗸 RPB is known for its rigorous grantmaking process, as well as its unique grantmaking model. We utilize a two-pronged model that allows us to be both directive (allocating funding to the areas of highest need) and flexible (responding to timely scientific opportunities).

Individual Grants

RPB offers a variety of individual grants that allow scientists to pursue specific, cuttingedge research proposals. Grant applications are thoroughly assessed by both of RPB's esteemed grant review committees to ensure that all funded projects are grounded in excellent science and that the research will move the field of vision science forward. RPB's individual grants are highly competitive.

See pages 6 - 12 for our 2023 individual grantees.

Did You Know?

RPB has always had its eye on the prize. RPB's founder, Dr. Jules Stein, an extremely successful businessman in the entertainment industry, was an ophthalmologist by training. In the 1960s, he decided to put his business acumen and strategic thinking to use in service of one of his true passions: helping people who are at risk for losing their sight.

- RPB was instrumental in helping many of the U.S. departments of ophthalmology that exist today get their start.
- RPB effectively lobbied Congress to create the National Eye Institute, part of the National Institutes of Health.
- RPB funding has been associated with almost every major advance in evecare in the past six decades.
- RPB is a 501(c)3 nonprofit that is highly ranked by third-party charity watchdogs and has been laser-focused on its mission since its founding.

Departmental Grants

RPB provides exceptional departments of ophthalmology with \$75,000 - \$115,000 a year in unrestricted funding. As one of the few sources of unrestricted fundswhich can be used for pilot studies, starting new lines of research, or the purchase of a piece of high-tech research equipment—RPB grants provide the flexibility that enable innovative scientific approaches to eye diseases.

> See page 16 for a list of the departments we funded in 2023.

PUTTING THE 'EYE' IN TEAM

Excellence is not always a solitary pursuit. While many of our awards are given to a specific researcher, the truth is that science is a group activity. Our awardees work closely with colleagues—within their labs and departments, and outside of them too—to achieve lofty research goals. They rely on each other's expertise, skills and talents to go further, faster. In fact, many of our Unrestricted Grants and Challenge Grants are used to support researchers across the department.

Here, we get a peek at team science at a few of the RPB-supported departments of ophthalmology around the country. Thank you to these researchers for working together to save sight!





Researchers at **Baylor College of Medicine in Texas** are studying (left) retinal circuit formation and (right) antiangiogenic therapy.





Researchers at **Indiana University School of Medicine in Indiana** are studying (left) diabetic eye disease and (right) glaucoma treatment.





Researchers at **Columbia University Irving Medical Center in New York** are studying (left) glaucoma-related neurodegeneration and (right) the structure and function of eye-specific proteins.



Researchers at **Emory University School of Medicine in Georgia** are studying the retinal pigment epithelium in age-related macular degeneration.



Researchers at the **University of Miami Miller School of Medicine in Florida** are studying gene editing for mitochondrial mutations.





Researchers at the **University of Texas Southwestern Medical Center in Texas** are studying (left) Fuchs' dystrophy, a corneal degeneration, and (right) retinal degeneration related to inherited retinal dystrophies.





Researchers at the **Board of Trustees of the Leland Stanford Junior University in California** are studying optic neuropathies and the eye-brain connection.

Researchers at **SUNY Upstate Medical University in New York** are studying 3D image analysis for glaucoma.



Every year, RPB makes grants to researchers who are studying a wide variety of sight-threatening diseases. Our grantees investigate essential questions about how the eye works and how we can best identify, prevent and treat eye diseases that cause vision loss.

At RPB, our goal is to help people maintain their sight through research. We're pleased to present the 2023 RPB individual award recipients, who are deeply committed to that same goal.

These talented scientists were selected to carry out specific research projects (as noted on the following pages) after careful review and deliberation by RPB's esteemed review panels (see page 17 for a listing of reviewers).

The research projects that receive RPB grants are grounded in scientific excellence and will provide answers to important questions about vision and eye health.

Ryoji Amamoto, PhD

RPB Career Development Awards

This award provides \$350,000 over 4 years to early-career MDs, PhDs and MD/PhDs to support their investigations. with mentorship from senior scientists. Their primary appointments must be in ophthalmology, and they must show potential to lead independent research.

Ryoji Amamoto, PhD

Harvard Medical School / MEEI

Promoting cone photoreceptor survival in retinitis pigmentosa (RP) in order to prolong daylight color vision for all patients suffering from RP. which is an inherited retinal disease related to more than 65 different genes.

Katy Liu, MD, PhD

Duke University School of Medicine Identifying and characterizing the genetic signatures of specific immune cells to uncover how these cells affect intraocular pressure in the healthy state and in glaucoma.

Daniel E. Maidana, MD, PhD

University of Illinois Chicago College of Medicine Testing the hypothesis that microglia reduce photoreceptor (light sensing) cell death in acute retinal detachment and increase photoreceptor cell death in chronic retinal detachment.

Isdin Oke, MD, MPH

Harvard Medical School / Boston Children's Hospital Addressing delayed diagnosis of amblyopia, the most common cause of vision loss in children in the U.S., through machine learning using data from the American Academy of Ophthalmology's IRIS[®] Registry.

Washington University in Saint Louis School of Medicine Establishing zebrafish as a model system of human macula diseases, such as AMD, building on the recent finding that zebrafish feature a maculalike specialization in the eye.



NEW GRANTS



William J. Spencer, PhD

SUNY Upstate Medical University Conducting a study to understand the mechanistic basis for disc (light-sensitive membrane) formation in healthy photoreceptors (light sensing cells) and to determine if reducing the abnormal release of vesicles in diseased retinas could have therapeutic value.

Christopher B. Toomey, MD, PhD

University of California, San Diego, School of Medicine Studying the formation of drusen (lipoprotein-rich deposits), the primary lesions of age-related macular degeneration (AMD) that occur in early stages of the disease, before vision loss is detected.

Takeshi Yoshimatsu, PhD

RPB / Tom Wertheimer CDA in Data Science Travis K. Redd, MD, MPH

Oregon Health & Science University School of Medicine Developing and evaluating artificial intelligence systems to automatically determine the underlying cause of infectious keratitis (or "corneal ulcer"), a major cause of blindness worldwide, using smartphone photographs and clinical history data.



RPB Career Advancement Awards

This award supports early- to mid-career researchers with a grant of \$150,000 as they seek new knowledge related to eye diseases. The award is aimed at vision researchers who have already received their first independent federal grant-the National Institutes of Health R01—and are collecting new data to apply for a second R01.

Philip D. Kiser, PharmD, PhD

The Regents of the University of California, Irvine Studying the role of cellular retinaldehyde-binding protein in the metabolic pathways known as visual cycles, which generate the key light-sensitive molecule of the retina.

RPB / David L. Epstein CAA in Glaucoma Research sponsored by Alcon Alex A. Huang, MD, PhD

University of California, San Diego, School of Medicine Uncovering the molecular pathways that are activated after glaucoma filtration surgeries and that cause surgical failure, with the ultimate aim of improving glaucoma treatments.

RPB / The Glaucoma Foundation CAA Ayellet V. Segre, MSc, PhD

Harvard Medical School / MEEI

Integrating cell type-specific genetic regulation in the outflow pathway, retina and optic nerve head with genetic associations to uncover causal mechanisms for primary open-angle glaucoma.

RPB Physician-Scientist Awards

This 3-year, \$300,000 award strengthens and promotes clinical and/or basic research conducted by MDs or MD/PhDs who are actively engaged in clinical research. Physician-scientists bring a unique perspective and commitment to patient care to their research activities, enhancing the vision science field.

Jia Yin, MD, PhD, MPH

Harvard Medical School / SERI

Exploring the direct relationship between blood vessels and corneal sensory nerves in order to advance knowledge of the neuro-regulation of corneal angiogenesis (blood vessel growth). Also exploring the development of potential therapeutics for corneal neovascularization and neurotrophic keratopathy, which are both sight-threatening conditions.

RPB / Mary Tyler Moore Vision Initiative Physician-Scientist Award

Brian L. VanderBeek, MD, MPH, MSCE University of Pennsylvania School of Medicine

Creating accurate, current national prevalence and incidence measurements of diabetic retinal disease.





RPB Stein Innovation Awards

Named after RPB's founder. Dr. Jules Stein. this award was developed to uncover and encourage high-risk/high-gain vision research that is innovative and cutting-edge. It provides \$300,000 over 3 years to researchers whose goal is understanding the visual system and the diseases that compromise its function. The proposed research cannot be funded previously or currently-by others.

James T. Handa, MD

The Johns Hopkins University School of Medicine Elucidating how photoreceptors (light sensing cells) and the retinal pigment epithelium, which are key cells that protect photoreceptors, can communicate in health and under stress through the exchange of genetic material, shedding light on potential new treatments for early age-related macular degeneration.

Yang Hu. MD. PhD

Board of Trustees of the Leland Stanford Junior University

Identifying the most suitable gene therapy vectors to create neuroprotective treatments for glaucoma, the most common cause of irreversible blindness.

Jeremy N. Kay, PhD

Duke University School of Medicine Building an encyclopedia of retinal disease gene isoforms and their expression sites in mouse and human retina in order to provide transformative insights into the pathophysiology of many inherited retinal disease-associated genes.

Carlos T. Moraes, PhD

University of Miami Miller School of Medicine Employing novel synthetic biology tools to create models and treatments for mitochondrial ophthalmological diseases.

Low vision is a substantial and chronic loss of visual ability, not correctable by eveglasses, contact lenses, medicines or surgery and includes degradation of central and/or peripheral vision. This \$300.000 award seeks greater understanding of how the visual system and brain respond to severe and chronic visual loss.

of disease.



RPB / Lions Clubs International Foundation Low Vision Research Awards

Gabriel J. Diaz. PhD

The Rochester Institute of Technology Studying the impact of cortical blindness, which includes hemianopia and quadrantanopia, on driving behavior (specifically steering) with a novel virtual reality steering task developed for this study.

Yaping Joyce Liao, MD, PhD

Board of Trustees of the Leland Stanford Junior University

Taking the initial steps to develop the first artificial intelligence platform for fast, real-time diagnosis of visual impairment based on oculomotor recordings, which are shown to be predictive

RPB Catalyst Awards for Innovative Research Approaches for Age-Related Macular Degeneration

This \$300,000 award is designed to support novel, ground-breaking research into age-related macular degeneration (AMD), with the ultimate goal of creating effective treatments for this increasingly common and debilitating condition. We are proud to partner with two other organizations that are committed to ending vision loss from AMD to offer these awards.

Rajesh C. Rao, MD

The Regents of the University of Michigan School of Medicine

Exploring a non-coding genetic variant, which increases the risk-via unknown mechanismsfor dry and wet AMD by ~10-fold, and its potential effects on the expression of other genes.

RPB / American Macular Degeneration Foundation Catalyst Award Rajendra Apte, MD, PhD

Washington University in St. Louis School of Medicine Exploring how impaired lipid transport and removal from the eye cause lipid-rich deposits (drusen) to develop in the eye in AMD.

RPB / Dr. H. James and Carole Free Catalyst Award

Vinit Mahajan, MD, PhD

Board of Trustees of the Leland Stanford Junior University

Establishing a high-resolution proteomic platform using human AMD aqueous humor biopsies, which exhibit high accessibility and minimal invasiveness compared to vitreous biopsies.





RPB Walt & Lilly Disney Award for Amblyopia Research

This \$100,000 award is available to MDs. PhDs or MD/PhDs conducting research of unusual significance into the diagnosis and treatment of amblyopia (commonly referred to as "lazy eye"), which develops in up to 4% of children, causing decreased vision without detectable anatomic damage.

Ming-fai Fong, PhD

Georgia Institute of Technology Conducting studies to determine whether suppressing activity in a subset of retinal cells is sufficient to promote recovery from amblyopia.

RPB International Research Collaborators Awards

This \$75,000 award promotes international collaborations through which researchers in the U.S. and outside the U.S. gain new knowledge and skills. Under a reciprocal arrangement, a U.S.-based researcher-MD, PhD, or MD/PhD with a primary appointment in a department of ophthalmology or other relevant department—will be funded to develop a new or deeper collaboration with a research collaborator outside the U.S. in order to advance vision science.

Paulo J.M. Bispo, MS, PhD

Harvard Medical School / MEEI

Collaborator: Sanna Sillankorva, MS, PhD, Principal Investigator and Staff Scientist, International Iberian Nanotechnology Laboratory, Portugal

Exploring solutions to overcome the growing threat of antibiotic-resistant bacteria in ophthalmology using bacteriophages (or phages), which are viruses that infect bacteria and can disrupt the bacterial cells.



Geoffrey Tabin, MD

Board of Trustees of the Leland Stanford Junior University

Collaborator: Akwasi Ahmed, MD, Consultant, Komfo Anokye Teaching Hospital, Ghana

Establishing a school-screening program for retinal disease among adolescents in Ghana, where patients with Type 1 diabetes and sickle cell disease have high rates of potentially blinding retinopathy.

Yingzi Xiong, PhD

The Johns Hopkins University School of Medicine Collaborator: Joseph Paul Nemargut, PhD, COMS, Assistant Professor, University of Montreal, Canada

Creating a standardized Orientation and Mobility (O&M) assessment tool for the large population of adults with low vision that is patient-centered, scientifically supported and takes comorbidities into consideration.



RPB Medical Student Eye Research Fellowships

This \$30,000 grant allows outstanding medical students to take a year off from medical school to devote time to a research project in an RPB-supported department of ophthalmology while working closely with a mentor. The fellowship is designed to encourage talented medical students to consider careers as physician-scientists working in eye research.

Osmel P. Alvarez*, conducting research at the University of Miami Miller School of Medicine Mentor: Carol L. Karp, MD

Jason A. Greenfield, conducting research at the University of Miami Miller School of Medicine Mentor: Carol L. Karp, MD

Jason (Jace) Jo*, conducting research at the University of Wisconsin-Madison School of Medicine & Public Health

Mentor: David M. Gamm, MD, PhD

Caroline Keehn, conducting research at **Baylor College of Medicine** Mentor: Benjamin J. Frankfort, MD, PhD Karla Murillo, conducting research at The Regents of the University of California, Los Angeles Mentor: Anne L. Coleman, MD, PhD

Oluomachi Onyekwere*, conducting research at the Board of Trustees of the Leland Stanford Junior University Mentor: Albert Wu, MD, PhD, FACS

Niloofar Radgoudarzi, conducting research at the University of California, San Diego, School of Medicine Mentor: Sally L. Baxter, MD, MSc

Madhura Shah, conducting research at Harvard Medical School / SERI Mentor: Bruce Ksander, PhD

RPB / American Osteopathic Colleges of Ophthalmology & Otolaryngology-Head and Neck Surgery Foundation Medical Student Eye Research Fellowship

Lyvia J. Zhang*, conducting research at Harvard Medical School / MEEI Mentor: Thomas H. Dohlman, MD

RPB / Johnson & Johnson Medical Student Eye Research Fellowship

Isabella Gomes, conducting research at Washington University in St. Louis School of Medicine Mentor: Shiming Chen, PhD

*Recipient of an additional \$8,000 relocation stipend.

PARTNERING FOR IMPACT

In 2023, RPB partnered with select organizations whose missions align with ours to support grants to outstanding scientists in areas of strategic interest. We are proud to support these research grants to a diverse group of scientists.

RPB / AAO Awards for IRIS Registry Research

RPB was pleased to again partner with the American Academy of Ophthalmology (AAO) on the RPB / AAO Awards for IRIS Registry Research, a joint award administered by AAO. The award enables researchers to use AAO's IRIS[®] Registry the nation's largest specialty clinical database-to conduct population-based studies in ophthalmology and blindness prevention.

Congratulations to the 2023 awardees:

Eric Crowell. MD. Dell Medical School at the University of Texas at Austin

Mary Hoehn, MD, Hamilton Eye Institute, University of Tennessee Health Science Center

Ang Li, MD, Cleveland Clinic Cole Eye Institute

Matthew Starr. MD. Mavo Clinic

RPB David F. Weeks Award for Outstanding Vision Research

RPB provided support to the Association of University Professors of Ophthalmology (AUPO) for the RPB David F. Weeks Award for Outstanding Vision Research, which is administered by AUPO to recognize and celebrate an outstanding ophthalmic vision scientist whose research has made meaningful contributions to the understanding and/or treatment of potentially blinding eye diseases. The award carries the name of David F. Weeks, former President and Chairman of Research to Prevent Blindness, in honor of his contributions to the field of vision research.

The 2023 awardee is David Calkins, PhD, of Vanderbilt University Medical Center, who is a pioneer in research related to glaucoma and neuroprotection.

Dr. Calkins is the Denis M. O'Day Professor of Ophthalmology and Visual Sciences, the Vice Chairman and Director of the Vanderbilt Eye Institute, Director of the Vanderbilt University Vision Research Center, and the Vice President for Research at the Vanderbilt University Medical Center. Congratulations to Dr. Calkins!

TGF (sponsored by Patricia Hill) -**RPB Fellowships in Glaucoma**

RPB partnered with The Glaucoma Foundation (TGF) to fund the TGF (sponsored by Patricia Hill) - RPB Fellowships in Glaucoma, which support underrepresented minority researchers who are pursuing glaucoma research. The award is administered by The Glaucoma Foundation.



Congratulations to the 2023 fellows:

Viviana Barquet, MD, Washington University in St. Louis School of Medicine

Leangelo Hall, MD, Wills Eye Hospital, Sidney Kimmel Medical College at Thomas Jefferson University

Alanna Elise James. MD. Keck School of Medicine of the University of Southern California

Giselle N. Lynch, MD, Columbia University Irving Medical Center

Anthony Mukwaya, PhD, Harvard Medical School / MEEI

Anthony Mukwaya, PhD (left), and Brian Hofland, PhD, President of RPB, attended an event held by The Glaucoma Foundation.

FOUNDATIONAL SUPPORT

In 2023, RPB provided grants to two organizations in support of activities that strengthen the entire vision research field. At RPB, we believe that a strong foundation is essential to continued growth.

Educating Policymakers with AEVR

RPB supported the Alliance for Eye and Vision Research (AEVR) in its efforts to educate policymakers and the public about the value of federally-funded vision research with a 2023 grant of \$80,000. With RPB support, AEVR held its Ninth Annual Emerging Vision Scientists (EVS) Day on Capitol Hill, which enables early-career researchers to engage with members of Congress and Congressional staff to discuss their research and the importance of funding for vision research.

In September 2023, AEVR brought 30 early-stage investigators from Departments of Ophthalmology and Schools/College of Optometry from across the country to Washington, D.C. AEVR provided training for the researchers and set up meetings at which the researchers could interact with their local Congressional offices to talk about the need to conduct research related to sight-threatening eye diseases.

AEVR also utilized RPB support to hold events for legislators called Congressional Briefings, which educate members of Congress and their staff about the human impact of these conditions and the need for federal funding to advance vision research.

Supporting Ophthalmology Leadership with AUPO

RPB provided a \$175,000 grant to support the activities of the Association of University Professors of Ophthalmology (AUPO), which supports academic departments of ophthalmology and their leadership, as well as promotes excellence in ophthalmic education, fosters vision research and promotes ethical practice in eyecare. The grant included \$50,000 to support the RPB David F. Weeks Award for Outstanding Vision Research (detailed on the previous page).



David Calkins, PhD, the 2023 RPB David F. Weeks Awardee (third from left), with RPB and AUPO leadership, at the AUPO Annual Meeting.



COLLABORATION BEGETS SUCCESS

In March 2023, Research to Prevent Blindness (RPB) and more than 30 other organizations convened in Washington, D.C. for the eighth annual Vision Research Funding Partnership event, which brings together leaders of organizations that fund vision research to think collectively about how to best support scientific research related to eye health and vision. While the organizations represent a variety of sectors (non-profit/foundation, pharmaceutical industry, government), they all have a common goal to help people maintain healthy vision throughout their lives through novel research. The event is hosted by RPB.

The event was organized around the theme of "The Research Pipeline – From Premise to Patient." Attendees participated in discussions, education

Vision Research Funding Partnership: The Research Pipeline— From Premise to Patient March 23, 2023

Vision Research Funding Partnership: The Research Pipeline-From Premise to Patient and small group activities designed to increase collaboration across the vision research field and to maximize the impact of funding in this area.

"We are grateful to our attendees for recognizing the value of collaboration," said Brian Hofland, PhD, President of Research to Prevent Blindness. "In a field where the stakes are high—the

research we support is ultimately designed to save sight—we know that working together is the best way to ensure that our organizations are efficient and effective in our individual, but often overlapping, missions."

RPB is grateful to the 18 co-sponsors of this event for their support of collaboration across the vision research field.

> Hosted by **Research to** Prevent Blindness

THANK YOU to our event co-sponsors!

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SILVER SPONSORS:

All May See Foundation American Academy of Ophthalmology Foundation Fighting Blindness Glaucoma Research Foundation Mary Tyler Moore Vision Initiative Medical Technology Enterprise Consortium

BRONZE SPONSORS:

American Macular Degeneration Foundation ARVO/ ARVO Foundation BrightFocus Foundation EyeSight Foundation of Alabama nternational Retinal Research Foundation Lavelle Fund for the Blind Prevent Blindness The Glaucoma Foundation

2023 RPB APPROVED GRANTS TOTAL: \$11.097.000*

U.S. medical schools receiving new 2023 departmental and/or individual investigator awards

| STATE | RPB GRANTEE INSTITUTIONS | TOTAL GRANTS
2023 | TOTAL SUPPORT
INCLUDING 2023 |
|----------------|---|--|--|
| CALIFORNIA | The Regents of the University of California, Irvine
The Regents of the University of California, Los Angeles
University of California, San Diego, School of Medicine
University of California, San Francisco, School of Medicine
Board of Trustees of the Leland Stanford Junior University | \$ 265,000
145,000
645,000
115,000
1,128,000 | \$ 2,155,000
11,930,750
5,670,000
13,539,256
3,999,450 |
| COLORADO | University of Colorado School of Medicine | 115,000 | 1,308,000 |
| FLORIDA | University of Miami Miller School of Medicine | 483,000 | 6,370,700 |
| GEORGIA | Georgia Institute of Technology | 100,000 | 100,000 |
| ILLINOIS | University of Illinois Chicago College of Medicine | 465,000 | 6,656,712 |
| IOWA | University of Iowa Carver College of Medicine | 115,000 | 5,927,425 |
| MARYLAND | The Johns Hopkins University School of Medicine | 490,000 | 15,150,140 |
| MASSACHUSETTS | Harvard Medical School | 1,408,000 | 15,433,315 |
| MICHIGAN | The Regents of the University of Michigan School of Medicine
Wayne State University School of Medicine | 415,000
115,000 | 12,043,050
5,093,000 |
| MISSOURI | Washington University in Saint Louis School of Medicine | 795,000 | 11,724,981 |
| NEW YORK | Columbia University Irving Medical Center
New York University Grossman School of Medicine
The Rochester Institute of Technology
University of Rochester School of Medicine & Dentistry
SUNY Upstate Medical University | 115,000
115,000
300,000
115,000
465,000 | 7,528,167
2,927,250
300,000
5,980,250
5,035,000 |
| NORTH CAROLINA | Duke University School of Medicine | 765,000 | 11,090,150 |
| оню | Cleveland Clinic Lerner College of Medicine of CWRU | 115,000 | 5,255,000 |
| OKLAHOMA | University of Oklahoma Health Sciences Center | 115,000 | 6,461,600 |
| OREGON | Oregon Health & Science University School of Medicine | 465,000 | 8,222,150 |
| PENNSYLVANIA | University of Pennsylvania School of Medicine
University of Pittsburgh School of Medicine | 415,000
115,000 | 8,078,500
7,613,372 |
| TENNESSEE | Vanderbilt University School of Medicine | 115,000 | 5,095,500 |
| TEXAS | Baylor College of Medicine
University of Texas Southwestern Medical Center | 145,000
300,000 | 7,134,060
5,436,000 |
| UTAH | University of Utah Health Sciences Center | 115,000 | 7,260,300 |
| WASHINGTON | University of Washington School of Medicine | 115,000 | 6,007,638 |
| WISCONSIN | University of Wisconsin-Madison School of Medicine & Public Health | 153,000 | 7,366,750 |

*Includes commitments for special grants to the Alliance for Eye and Vision Research, and the Association of University Professors of Ophthalmology.

Schools that received earlier RPB support but no new grant in 2023: Emory University School of Medicine, Indiana University School of Medicine, Icahn School of Medicine at Mount Sinai, Northwestern University Feinberg School of Medicine, and The Ohio State University College of Medicine.

The RPB grant approval process is highly competitive. A standing Scientific Advisory Panel (SAP) and rotating Ad Hoc Committees convene each spring and fall to review all grant applications. Ad Hoc Committees are comprised of ophthalmology department chairs and expert researchers whose recommendations are forwarded to the SAP for further evaluation. The SAP includes distinguished scientists representing a broad range of scientific disciplines and interests. Their recommendations are presented to the RPB Board of Trustees for final approval. We thank our committees for their dedication!

2023 RPB SCIENTIFIC **ADVISORY PANEL**

Robin Ali, PhD, FMedSci

Prof. Human Molecular Genetics King's College London Dir., KCL Centre for Gene Therapy and Regenerative Medicine Visiting Prof., Kellogg Eye Center, University of Michigan

Bela Anand-Apte, MBBS, PhD, MBA

Prof., Cleveland Clinic Lerner College of Medicine Dept. of Ophthalmology Chair-Ophthalmic Research, Cole Eye Institute Cleveland Clinic Foundation

Vadim Y. Arshavsky, PhD

Helena Rubinstein Prof. and Vice Chair for Basic Research, Dept. of Ophthalmology Prof., Dept. of Pharmacology and Cancer Biology Duke University Medical Center

Peter A. Campochiaro, MD

George S. & Dolores Dore Eccles Prof. of Ophthalmology and Neuroscience The Wilmer Eye Institute Johns Hopkins School of Medicine

Zelia M. Correa, MD, PhD

Prof. of Ophthalmology Dir., Ocular Oncology Service Medical Dir., Echography Service Bascom Palmer Eye Institute Co-Leader, Melanoma Site-Disease Group Sylvester Comprehensive Cancer Center Interdisciplinary Stem Cell Institute University of Miami Miller School of Medicine

Ali Djalilian, MD

Searls-Schenk Prof. of Ophthalmology Co-Dir., Cornea Service Co-Dir., UIC K12 Clinical Vision Scientist Training Program Dir., Stem Cell Therapy and Corneal Tissue Engineering Laboratory Dept. of Ophthalmology and Visual Sciences University of Illinois College of Medicine University of Illinois Chicago

John H. Fingert, MD, PhD

Hadley-Carver Chair in Glaucoma Dir., Glaucoma Service and Glaucoma Research Center Prof., Ophthalmology and Visual Sciences University of Iowa Carver College of Medicine

Jayashree Kalpathy-Cramer, PhD Endowed Chair in Ophthalmic Data Sciences Chief, Division of Artificial Medical Intelligence Dept. of Ophthalmology University of Colorado Anschutz Medical Campus

J. Anthony Movshon, PhD University Prof. and Silver Prof. Center for Neural Science New York University Prof. of Ophthalmology and of Neuroscience and Physiology NYU Langone School of Medicine

Jerry Y. Niederkorn, PhD

Prof. Emeritus Dept. of Ophthalmology and Microbiology University of Texas Southwestern Medical Center

Cynthia Owsley, PhD, MSPH

Nathan E. Miles Endowed Chair of Ophthalmology Prof. and Dir., Clinical Research Unit University of Alabama at Birmingham

Mahnaz Shahidi, PhD

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