VISION *for the* FUTURE

Annual Report 2024

Research to Prevent Blindness

Research to
Prevent Blindness

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www.rpbusa.org

Top: RPB Medical Student Eye Research Fellow Antonio Z. Diaz uses a smartphone-based application to perform a visual acuity assessment at University of California, San Francisco, School of Medicine, with the goal of expanding trachoma and visual acuity screenings to rural areas.

Bottom left: Career Development Awardee Levi Todd, PhD (left), and Jugasmita Deka are pictured here preparing DNA gels in The Todd Lab at SUNY Upstate Medical University, which studies retinal glia and their capacity to protect and regenerate neurons.

Bottom right: RPB / Johnson & Johnson Medical Student Eye Research Fellow Brionna L. Bennett is a Medical Student at the University of South Carolina School of Medicine Greenville, who is spending a year as a Research Fellow at Mass Eye and Ear, where she is working to improve the diagnosis of infectious endophthalmitis.

Funding the Future, Over and Over

When we talk about the future of science, we often think about the breakthrough discoveries that will change the way we live.

When we talk about the future of *vision science*, we think about:

- restoring lost vision to glaucoma patients;
- halting vision loss from age-related macular degeneration before noticeable vision loss;
- applying a one-time gene therapy to an inherited retinal disease to cure the disease;
- and so much more.

But less often, we think about the people making these sight-saving discoveries. These are the scientists who spend countless hours in their labs applying their training and their incredible scientific knowledge base to make new eye disease treatments a reality.

As a 65-year-old organization that helped to build the field of vision research, we know that superhero scientists don't just materialize without long-term, sustained investment in scientific careers.

This is why Research to Prevent Blindness invests, over and over, in the most promising early-career researchers (see the Medical Student Fellows, Career Development Awardees, Career Advancement Awardees and Physician-Scientist Awardees that we funded in 2024, starting on page 5).

Today, with less funding available for early-career scientists from other sources, we run the risk of a generational gap of vision scientists. But the real gamble is our sight. Will we be able to keep up the incredible pace of discovery needed to realize our future eyecare goals?

We know what we need to do and we hope you'll join us in doing it. RPB is *steadfast* in our funding—seeding the next generation of vision researchers (not just once, but time and time again), while also supporting the senior researchers who possess talent and dedication beyond measure. *Thank you for joining us in this critical work!*

With purpose and passion,

Diane S. Swift
Chairman

Brian F. Hofland, PhD
President

The Long View

When you're funding to change the future, you focus on a few key things:

- **Dedicated scientists** – whether they're launching a career or leading the field, commitment is a non-negotiable.
- **Scientific excellence** – we require hypothesis-driven, rigorous research and our expert review committees (see page 17) ensure that this is what we fund.
- **Key questions** – we always ask "what gaps in knowledge will this research fill and why is it important in the fight against vision loss?"
- **Cutting-edge research** – our researchers are creating new scientific breakthroughs through the use of innovative techniques.
- **Prodigious productivity** – we look for departments and labs that set their researchers up for success, with the best leadership, mentorship, equipment and more.

At RPB, we apply all of these criteria to our grants program. By doing this, we ensure that every dollar of the **$12 million we supplied in research grants in 2024**, is serving our mission to create new treatments, preventives and cures.


Anh Pham, MD, PhD

And, it's working! RPB was cited as funder in more than **1,500 new peer-reviewed studies published in scientific journals** in 2024. That knowledge is now being used to change patient care.

RPB utilizes 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, cutting edge 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 page 5 for our 2024 individual grantees.

Departmental Grants

RPB provides exceptional, research-focused departments of ophthalmology with unrestricted funding. As one of the few sources of unrestricted funds—which can be used for pilot studies, starting new lines of research, bridge funding for established researchers, 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 2024.

From the Eye to the Brain, and Beyond

RPB grants cover all sight-threatening diseases, including age-related macular degeneration, inherited retinal diseases, glaucoma, diabetic retinal disease, infectious eye diseases, myopia and many more. By studying all of these diseases, RPB-supported researchers are uncovering so much critical information about the human body.

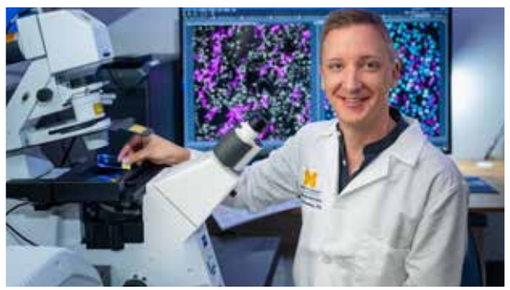
In fact, research in the eye can often lead to innovations in other areas of medicine as well. Did you know that Alzheimer's disease and cardiovascular disease can now be diagnosed through the retina? The eye is an incredible and unique window into our overall health. RPB-supported vision research leads to incredible medical advances both within and beyond the eye.

A Moment In Time

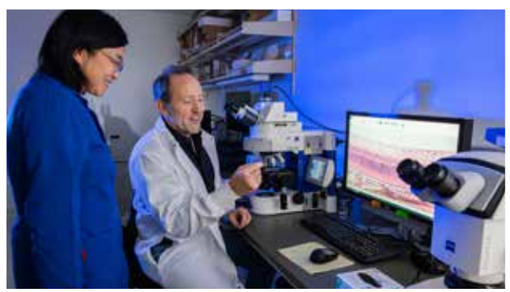
RPB-supported researchers at departments of ophthalmology around the country are creating the future of eyecare, day by day, experiment by experiment. At any given time, hundreds of RPB grantees are in the lab, applying their extensive training and expertise to make new discoveries that help to save sight. RPB is grateful to its departmental and individual grantees for their hard work, compassion and innovation. Here, we get to spend a moment with a few of them.

Rinki Ratnapriya, PhD (second from left), and her team at Baylor College of Medicine are applying advanced analytics methods on functional genomic data to understand the disease pathogenesis of age-related macular degeneration (AMD).

Juliette McGregor, PhD (left), at the University of Rochester Flaum Eye Institute, is a leader in the development of ultra high-resolution adaptive optics imaging. Currently, she and her team are studying the potential of retinal stem cell transplantation therapies to restore vision in blinding diseases.



Sebastian Werneburg, PhD, at the University of Michigan, Kellogg Eye Center, uses a super-resolution confocal microscope to investigate visual processing areas in the brain. He studies neuron-glia interactions and how these contribute to neuroinflammation and the de- and regeneration of neural circuits in neurological disorders.



Douglas Gould, PhD (seated), at the University of California, San Francisco, School of Medicine and a research colleague are discussing results in his laboratory, which studies the role of the extracellular matrix in developmental glaucoma.

New Grants

RPB is pleased to present its 2024 Individual Grantees!

The grants RPB made in 2024 reflect a variety of strategic priorities:

- **Topics** that require scientific investigation in order to advance treatments, preventives and cures for eye diseases;
- **People** who have proven that they have the skills, expertise and dedication to conduct high-quality research;
- **Academic medical centers** that are committed and equipped to support the scientific enterprise; and most importantly;
- **Scientific excellence** underscoring it all.

We are grateful to our review committees (see page 17 for a list of reviewers) who ensure that RPB is funding the best researchers, in the most effective labs, who are asking the most important questions.

Jason Matthew Lewis Miller, MD, PhD (see page 6)

RPB Career Development Awards

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

Jason Matthew Lewis Miller, MD, PhD
The Regents of the University of Michigan School of Medicine
Exploring the potential ability of an organelle called peroxisome to degrade the lipid-rich deposits that occur in people with age-related macular degeneration (AMD) when mitochondria, which typically get rid of this build-up, are not functioning properly due to the disease. The researcher will determine whether promoting peroxisomal activity is a therapeutic option for AMD patients with mitochondrial dysfunction.

Rebecca Lynne Pfeiffer, PhD
University of Utah Health Sciences Center
Advancing our understanding of the connectivity of Muller cells (cells in the inner retina that have important roles in synaptic modulation, preservation and metabolic support), which is largely unknown and will provide the groundwork for understanding how these connections change with disease. Additionally, this proposal will determine the frequency of association for neurotransmitter transporters provided by Muller cells, painting a clearer picture of their specific roles within the inner retina.

Elizabeth J. Rossin, MD, PhD
Harvard Medical School / MEEI
Expanding the known genetic underpinnings of central serous chorioretinopathy (CSCR), an inherited vision-threatening maculopathy seen commonly by retina specialists, to understand how they affect choroidal anatomy and serum proteins in patients. This study will shed light on a poorly understood disease, as well as help explain the consequence of genetic variation on retinal anatomy and systemic protein levels.

Levi Todd, PhD
SUNY Upstate Medical University
Answering critical questions about the potential for mammals to regenerate the retina using Müller glia, a support cell in the retina, as a source of neuronal replacement. The researcher will explore whether glia can regenerate neurons in aged retinas and whether regenerated neurons can survive therapeutically relevant time spans (and whether additional time helps with maturation and functional recovery).

Anna Louise Vlasits, PhD
University of Illinois Chicago College of Medicine
Studying Fragile X syndrome, a neuro-developmental disorder that causes learning disabilities, autism and visual symptoms (including reduced contrast sensitivity), to determine whether symptoms are caused by changes in the retina or the brain. The researcher will study the relevant gene (Fmr1) in the retina to determine how loss of Fmr1 affects retinal ganglion cell contrast sensitivity across light levels and whether it specifically affects visual behaviors.

James Walsh, MD, PhD
Washington University in St. Louis School of Medicine
Exploring the role of the choroid, a vascular layer that sits outside of the blood-retina barrier, as an immunologically active area within the eye that may play a critical role in autoimmune uveitis, an inflammatory disease of the eye's uvea. The researcher will investigate the dynamics of T cells to better understand the pathogenesis of autoimmune eye disease, with the ultimate goal of developing an eye-targeted therapy for autoimmune uveitis.

RPB / Tom Wertheimer CDA in Data Science

Inas F. Aboobaker, MD
Harvard Medical School / MEEI
Using cutting-edge genetic technologies to measure the quantity and quality of DNA found in the mitochondria in people with and without glaucoma. The researcher will use national and international healthcare databases to assess whether these traits are associated with specific clinical outcomes, with the goal of predicting who is at the highest risk for developing glaucoma and creating new treatments.

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.

Raunak Sinha, PhD
University of Wisconsin-Madison School of Medicine & Public Health
Increasing our fundamental understanding of the functional maturation of the fovea (the area of the retina that provides high-resolution daylight vision via cone photoreceptors). This work will inform research into degenerative and developmental diseases like macular degeneration and foveal hypoplasia, as well as provide critical information for human stem cell studies that are generating a robust 3D organoid model of the human retina.

Benjamin Xu, MD, PhD
University of Southern California
Demonstrating the feasibility of an AI-enhanced tele-glaucoma program for providing timely access to reproducible, equitable and resource-efficient glaucoma care. The researcher will leverage his unique access to robust data from a large municipal tele-ophthalmology program and its underserved patients; cutting-edge expertise in AI; and a custom multimodal data management platform.

RPB / David L. Epstein CAA in Glaucoma Research sponsored by Alcon

Samuel Herberg, PhD
SUNY Upstate Medical University
Investigating whether targeting epigenetics (cellular processes that regulate gene activity without altering the DNA sequence) has the potential to improve glaucomatous outflow tissue defects in high-pressure glaucoma, a blinding disease. This could help transform our understanding of outflow tissue dysfunction in glaucoma and aid the search for novel drug candidates to treat high-pressure 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.

Brandon J. Lujan, MD
Oregon Health & Science University School of Medicine
Enhancing the accuracy and effectiveness of high-resolution imaging (ocular coherence tomography, or OCT) for diagnosing and monitoring macular diseases by studying the reflectivity of a specific retinal layer in the photoreceptors. This layer, the ellipsoid zone, is a critical biomarker for retinal health, but the images captured by OCT can be affected by the directional reflectivity of the layers. By identifying and characterizing directional effects, it will be possible to create an even earlier and more precise biomarker for macular diseases.

RPB Physician-Scientist Award in Myopia

Jefferson J. Doyle, PhD
The Johns Hopkins University School of Medicine
Using a model of high myopia (aka, nearsightedness), the researcher is exploring drivers behind myopia when it occurs as a symptom of another disease (specifically, in this case, Marfan Syndrome), which is called syndromic myopia. The researcher will address the role of transforming growth factor beta-dependent ERK1/2 activation in environmentally induced myopia, genetically induced myopia, and a gene-environment interaction between them.

RPB / Mary Tyler Moore Vision Initiative Physician-Scientist Award

Leo A. Kim, MD, PhD
Harvard Medical School / MEEI
Exploring the role of a protein (Runt-related transcription factor 1, or RUNX1) in creating resistance in patients with diabetic retinopathy (DR) to the current standard treatment for the disease, called anti-vascular endothelial growth factor (anti-VEGF). Anti-VEGF therapy doesn't work for 5 – 10% of patients with DR, who are resistant to it. The researcher will use messenger ribonucleic acid inside the eye to produce therapeutic proteins that could be used to inhibit RUNX1.

RPB / Lions Clubs International Foundation Low Vision Research Award

Low vision is a substantial and chronic loss of visual ability, not correctable by eyeglasses, 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.

Felice Dunn, PhD

University of California, San Francisco, School of Medicine

Developing more scalable, sensitive diagnostic methods for the clinical measurement of graded photoreceptor loss. This is important because clinically, photoreceptors (specialized cells in the retina that convert light into signals for the brain) can degenerate over time without reducing visual acuity below normal limits until the majority of the cones are lost, eventually resulting in low vision.

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.

Evan Feinberg, PhD

University of California, San Francisco, School of Medicine

Testing the hypothesis that strabismus (misalignment of the eyes) originates in a specific area of the brain that functions as a hub for shaping several different eye movements. Building on the work of a previous RPB awardee, the researcher will create cellular atlases of the eye movement-controlling brain area, utilizing spatial transcriptomic technologies and behavioral paradigms. He will also validate an animal model of strabismus.

Felice Dunn, PhD

Bryan W. Jones, PhD

Roman J. Giger, PhD

The Regents of the University of Michigan School of Medicine

Exploring ways to alter the retinal environment to promote retinal repair (following visual system trauma or in relation to eye transplantation), which is currently hampered by the body's own immune system, which can damage newly forming blood vessels. The researcher's work will lead to a deeper understanding of how specific immune cells can be helpful or harmful in axon regeneration. He will study the use of helpful immune cells to enable retinal ganglion cell protection as a method for addressing the role of the blood-retina-barrier.

Bryan W. Jones, PhD

University of Utah Health Sciences Center

Studying the retinas of ground squirrels, which, during hibernation, degenerate their photoreceptors, then disassemble the synapses connecting photoreceptors from the rest of the retina. When these synapses disassemble, they look like synapses in human retinal degenerative disease such as retinitis pigmentosa or age-related macular degeneration. However, when ground squirrels emerge from hibernation, they regenerate photoreceptors and reconnect synapses. The goal of this project is to create new gene therapy or protein- or metabolic-based approaches to vision loss.

Gregory W. Schwartz, PhD

Northwestern University Feinberg School of Medicine

Creating a new way to measure dysfunction in retinal ganglion cells (RGCs), which transmit signals that are essential for vision to the brain, by tracking RGC light responses (or "spikes"), rather than cell survival, as the primary outcome measure. This approach could revolutionize the way we measure retinal dysfunction, providing inspiration for earlier diagnoses, as well as a platform for screening new drugs to prevent vision loss.

Janet R. Sparrow, PhD

Columbia University Irving Medical Center

Patients with retinitis pigmentosa (RP), a hereditary retinal disorder that causes progressive vision loss, often present with an aberrant pattern of increased brightness in images of blue fundus autofluorescence. The researcher is using a model to determine whether the increased production of toxic molecules (bisretinoid lipofuscin), that are the source of the increased autofluorescence, contribute to disease progression in RP. The findings will highlight the significance of existing therapeutic strategies that address damaging oxidative processes, identify additional therapeutic targets and elucidate common disease mechanisms.

Vivek Srinivasan, PhD

New York University Grossman School of Medicine

Utilizing a state-of-the-art imaging technology to measure more precisely the rod system (the photoreceptors lining the back of the eye, which are responsible for vision in low light), to identify markers for age-related macular degeneration (AMD) progression. By measuring the health of the rod system (using visible light optical coherence tomography and a new quantitative spatially-resolved assessment of rod-mediated dark adaptation) before atrophy begins, treatments could be applied sooner, when AMD can still be halted or even reversed.

RPB Stein Innovation Award in Ocular Genetics

Gulab Zode, PhD

University of California, Irvine, School of Medicine

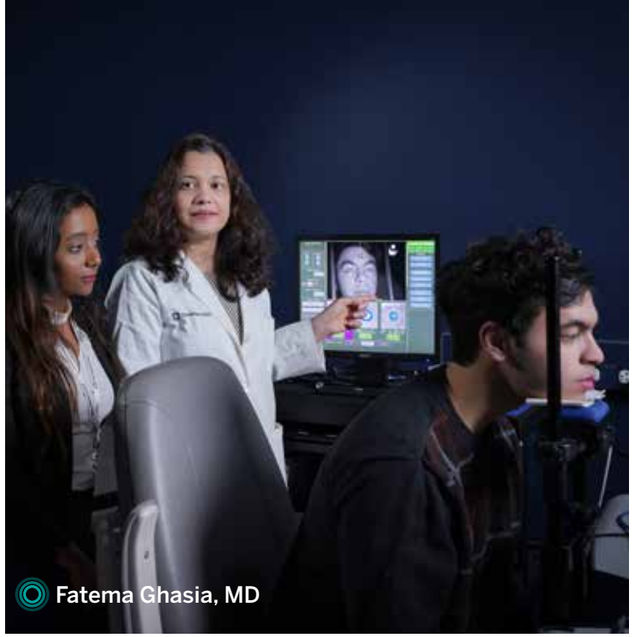
Utilizing cutting-edge techniques to deliver gene editing to the trabecular meshwork (TM), a tissue in the eye that can be damaged by mutant myocilin, leading to high intraocular pressure and a severe form of glaucoma. The researcher will use lipid nanoparticles, carrying messenger ribonucleic acid (mRNA) for base editors, to target the myocilin gene in the TM, offering a one-time 'cure' for glaucoma. This approach will also provide a platform to utilize mRNA technology for delivering therapeutics for other diseases.

RPB Walt & Lilly Disney Award for Amblyopia Research

This $150,000 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.

Jason Triplett, PhD
George Washington University School of Medicine and Health Sciences
Studying the molecular- and activity-dependent mechanisms underlying functional changes in the superior colliculus (a midbrain nucleus that integrates multisensory inputs to regulate head and eye movements) in amblyopia, which are currently completely unknown. The researcher will use a model to determine how circuit connectivity relates to visual function and behavior, as well as how these processes are disrupted in amblyopia.


Jason Triplett, PhD


Fatema Ghasia, MD

RPB International Research Collaborators Award

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—will be funded to develop a new or deeper collaboration with a research collaborator outside the U.S. to advance international vision collaboration.

Fatema Ghasia, MD
Cleveland Clinic Lerner College of Medicine of Case Western Reserve University
Collaborator: Stefano Ramat, PhD, Professor, University of Pavia, Italy
Revolutionizing amblyopia care by creating an innovative AI-based approach to diagnose and assess the treatment of amblyopia. Because early intervention in this condition is crucial, the researcher will seek to create a more objective form of diagnosis that can be performed by general healthcare personnel, such as nurses and pediatricians, as well as eyecare providers.

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 other organizations that are committed to ending vision loss from AMD to offer these awards.

RPB / American Macular Degeneration Foundation Catalyst Award

Yasir Sepah, MBBS
Board of Trustees of the Leland Stanford Junior University
Developing a more precise and personalized method for detecting and monitoring retinal diseases like geographic atrophy and Stargardt disease by integrating advanced imaging techniques with functional testing (adaptive optics imaging with image-guided microperimetry). The researcher will also develop benchmarks for measuring changes in retinal sensitivity before visible structural damage occurs, and will create a user-friendly, web-based tool that automates this complex image analysis for ease of use.

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

Joshua L. Dunaief, MD, PhD
University of Pennsylvania
Exploring the role of bile acids, if any, in AMD pathogenesis and developing drug or gene therapies to augment the levels of helpful bile acids. This work builds upon the researcher’s previous finding that retinal pigment epithelial (RPE) cells synthesize bile acids, which were previously only thought to be made in the liver, to potentially help dissolve lipids, and lipid accumulation in and around the RPE cells, which could contribute to age-related macular degeneration.

RPB / International Retinal Research Foundation Catalyst Award

Krzysztof Palczewski, PhD
University of California, Irvine, School of Medicine
Developing innovative approaches to regulate vascular endothelial growth factor (VEGF-A), which promotes blood vessel growth, through the introduction of highly specific proteases in botulinum neurotoxin (commonly known as Botox) that target VEGF-A. This is a novel strategy utilizing cutting-edge protein engineering and pharmacology to mitigate harmful overgrowth of ocular blood vessels, in conditions such as AMD, diabetic retinopathy, retinopathy of prematurity and more.


Krzysztof Palczewski, PhD (top)


David Sutter

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.

Xindi Chen, conducting research at The Johns Hopkins University School of Medicine
Mentor: Pradeep Ramulu, MD, MHS, PhD

Andrea S. Cuamatzi Castelan, conducting research at Northwestern University Feinberg School of Medicine
Mentor: Jeremy Lavine, MD, PhD

Antonio Z. Diaz, conducting research at the University of California, San Francisco, School of Medicine
Mentor: Jeremy Keenan, MD, MPH

Katherine Coral Du, conducting research at the University of Pittsburgh School of Medicine
Mentor: Jay Chhablani, MD

Musona Fortingo*, conducting research at Baylor College of Medicine
Mentor: Douglas Koch, MD

Henok Getahun, conducting research at Washington University in St. Louis School of Medicine
Mentor: Rajendra Apte, MD, PhD

Nicholas A. Householder*, conducting research at Keck School of Medicine of the University of Southern California
Mentor: Kimberly Gokoffski, MD, PhD

Wendy Li, conducting research at the University of Miami Miller School of Medicine
Mentor: Carol L. Karp, MD

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

Jatniel Rodriguez*, conducting research at Harvard Medical School / MEEI
Mentor: Kinga Bujakowska, PhD

David Sutter*, conducting research at Oregon Health & Science University
Mentor: J. Peter Campbell, MD, MPH

RPB / Johnson & Johnson Medical Student Eye Research Fellowship

Brionna L. Bennett*, conducting research at Harvard Medical School / MEEI
Mentor: Paulo J. M. Bispo, PhD

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

Supporting Research, Together

In 2024, RPB partnered with several organizations whose missions align closely with ours. Together, we supported grants to outstanding scientists in areas of strategic interest, including age-related macular degeneration (AMD), glaucoma, infectious eye diseases, diabetic retinopathy and more. We are proud to work with our partner organizations to extend our reach in support of excellent science.

RPB / AAO Awards for IRIS Registry Research

RPB was pleased to partner with the American Academy of Ophthalmology (AAO) on the RPB / AAO Award for IRIS Registry Research, a joint award administered annually 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 2024 awardees:

Carolina Adams, MD, Emory University School of Medicine

James Chodosh, MD, University of New Mexico School of Medicine

Preethi Ganapathy, MD, SUNY Upstate Medical University

Kristen Nwanyanwu, MD, Yale University School of Medicine

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 **2024** awardee is **Patricia Ann D'Amore, PhD, MBA**, of Harvard Medical School. Dr. D'Amore is the Charles L. Schepens Professor of Ophthalmology and Professor of Pathology at Harvard Medical School and Senior Scientist at Mass Eye and Ear.

Dr. D'Amore is an internationally recognized expert in vascular growth and development who has made significant contributions to our understanding of AMD, particularly through her painstaking study of the mechanisms and regulation of blood vessel growth. Dr. D'Amore's early research revolutionized retinal care.

Congratulations to Dr. D'Amore!

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 early-career researchers. The award is administered by The Glaucoma Foundation.

Congratulations to the 2024 fellows:

Patrice Marie Hicks, MD, The Regents of the University of Michigan School of Medicine

Bushra Usmani, MD, University of Pittsburgh School of Medicine


RPB President Brian Hofland, PhD (left), and Bushra Usmani, MD, attended The Glaucoma Foundation Gala.

Fostering Field-Building

In 2024, RPB provided grants to three organizations that are strengthening the field of vision research. At RPB, we believe that working together to support vision research benefits all participants (and ultimately leads to better outcomes for people with vision loss).

Policymaker Education

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 2024 grant of $80,000. With RPB support, AEVR held its Tenth 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 2024, AEVR brought 34 early-stage investigators from Departments of Ophthalmology and Schools/Colleges of Optometry across the country to Washington, D.C. AEVR provided training 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.

In 2024, the RPB Board of Trustees also approved additional funding for AEVR and the National Alliance for Eye and Vision Research (NAEVR) to coordinate a coalition of stakeholder organizations for advocacy efforts regarding continued, robust funding for the National Eye Institute.

Individuals and institutions can connect with NAEVR/AEVR at www.eyeresearch.org to participate in its efforts.

Ophthalmology Leadership

RPB provided a $125,000 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. They also received $50,000 to support the RPB David F. Weeks Award for Outstanding Vision Research (detailed on page 13).

Early-Career Support

RPB provided a $34,000 grant to the Heed Ophthalmic Foundation (HOF) to renew RPB's support for HOF's Resident Retreats, which provide professional development experiences to talented ophthalmology residents from across the country. The Retreats encourage residents to pursue academic careers in ophthalmology.

RPB also provided $60,000 in additional funding to HOF to support candidates in The Heed Fellows program, which provides funding for postgraduate studies in ophthalmology and ophthalmic sciences.

Emerging Vision Scientist (EVS) participants met with Congressional offices in Washington, D.C. to advocate for robust federal support for vision research. Here, EVS participants visited the offices of Representative Frederica S. Wilson (left) and Senator Tammy Duckworth (right).

A Collective Vision for Success

For the ninth straight year, RPB and its partners have shown that true leadership often means extending your hand to others. In March 2024, RPB hosted the tenth annual Vision Research Funding Partnership event, which brings together leaders of organizations that fund vision research, across sectors, to think collectively about how to best support scientific research related to vision and the eye.

Members of the leadership teams of more than 35 organizations convened in Washington, D.C. to attend the event, which was organized around the theme of "Pushing Boundaries: Advancements That Are Changing The Field."

"Vision scientists are leading the way in important new areas of scientific and medical research and we as a field need to pave the way for this critical work to continue," said Brian Hofland, PhD, RPB President. "By working together across sectors, we can increase our impact and reach the ultimate goal more effectively: helping people maintain their sight."

Attendees participated in high-level discussions, education, and small group activities designed to increase collaboration across the vision research field and to maximize the impact of funding in this area.

RPB is grateful to the 20 co-sponsors of this event for their support of collaboration across the vision research field.

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International Retinal Research Foundation
The Glaucoma Foundation

Leadership from more than 35 organizations across a variety of sectors (non-profit/foundation, pharmaceutical industry, government) attended the 2024 Vision Research Funding Partnership event.

2024 RPB APPROVED GRANTS TOTAL: $12,034,000*

U.S. medical schools receiving new 2024 departmental and/or individual investigator awards

STATE	RPB GRANTEE INSTITUTIONS	TOTAL GRANTS 2024	TOTAL SUPPORT INCLUDING 2024
CALIFORNIA	The Regents of the University of California, Irvine	$ 715,000	$ 2,870,000
	The Regents of the University of California, Los Angeles	115,000	12,045,750
	University of California, San Diego, School of Medicine	115,000	5,785,000
	University of California, San Francisco, School of Medicine	745,000	14,284,256
	Keck School of Medicine of the University of Southern California	303,000	6,837,795
	Board of Trustees of the Leland Stanford Junior University	415,000	4,414,450
COLORADO	University of Colorado School of Medicine	115,000	1,423,000
DISTRICT OF COLUMBIA	George Washington University School of Medicine & Public Health	150,000	197,500
FLORIDA	University of Miami Miller School of Medicine	145,000	6,515,700
ILLINOIS	University of Illinois Chicago College of Medicine	465,000	7,121,712
	Northwestern University Feinberg School of Medicine	445,000	4,625,000
IOWA	University of Iowa Carver College of Medicine	115,000	6,042,425
MARYLAND	The Johns Hopkins University School of Medicine	445,000	15,595,140
MASSACHUSETTS	Harvard Medical School	1,191,000	16,624,315
MICHIGAN	The Regents of the University of Michigan School of Medicine	765,000	12,808,050
	Wayne State University School of Medicine	115,000	5,208,000
MISSOURI	Washington University in St. Louis School of Medicine	495,000	12,219,981
NEW YORK	Columbia University Irving Medical Center	415,000	7,943,167
	New York University Grossman School of Medicine	415,000	3,342,250
	University of Rochester School of Medicine & Dentistry	115,000	6,095,250
	SUNY Upstate Medical University	615,000	5,650,000
NORTH CAROLINA	Duke University School of Medicine	115,000	11,205,150
OHIO	Cleveland Clinic Lerner College of Medicine of CWRU	190,000	5,445,000
OKLAHOMA	University of Oklahoma Health Sciences Center	115,000	6,576,600
OREGON	Oregon Health & Science University School of Medicine	453,000	8,675,150
PENNSYLVANIA	University of Pennsylvania School of Medicine	415,000	8,493,500
	University of Pittsburgh School of Medicine	145,000	7,758,372
TENNESSEE	Vanderbilt University School of Medicine	115,000	5,210,500
TEXAS	Baylor College of Medicine	38,000	7,172,060
UTAH	University of Utah Health Sciences Center	765,000	8,025,300
WASHINGTON	University of Washington School of Medicine	115,000	6,122,638
WEST VIRGINA	West Virginia University School of Medicine	300,000	573,100
WISCONSIN	University of Wisconsin-Madison School of Medicine & Public Health	265,000	7,631,750

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

Schools that received earlier RPB support but no new grant in 2024: Emory University School of Medicine, Indiana University School of Medicine, The Ohio State University College of Medicine, and the University of Texas Southwestern Medical Center.

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 esteemed 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!

Research to
Prevent Blindness

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Our focus? Creating new treatments and cures for eye diseases.

We do this by putting scientific excellence at the center.

We're proud to support research across *all* sight-threatening conditions.