60 YEARS

Research to Prevent Blindness

Annual Report 2019

60 YEARS

Research to Prevent Blindness

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Cover Captions:

(top left) Ramkumar Sabesan, PhD, Assistant Research Professor, University of Washington School of Medicine, utilizes the Department of Ophthalmology's RPB Unrestricted Grant to advance high-resolution imaging technologies to visualize retinal cells and their physiology.

(top right) Doug Gould, PhD, Professor, University of California, San Francisco, School of Medicine, and his research group utilize the Department of Ophthalmology's RPB Unrestricted Grant to study cranial neural crest cells and their relationship to ocular dysgenesis and congenital glaucoma.

(bottom R to L) David E. Cobrinik, MD, PhD, Associate Professor of Research Ophthalmology, Keck School of Medicine of the University of Southern California, works with Najate Aït-Ali, a member of the Léveillard laboratory, with which Dr. Cobrinik holds an RPB International Research Collaborators Award, studying cell signaling pathways that enhance cone photoreceptor survival.

Generating Hope Through Innovation

Dear Friends of Research to Prevent Blindness,

We are so pleased to present our 2019 Annual Report, which spotlights the incredible work undertaken by our grantees around the country and lists the many new and exciting grants made by RPB.

We're also extremely proud to announce that as of February 2020, RPB is 60 years old! Today, our grantees—such as the ones highlighted in this report—are undertaking scientific feats that would have been considered science fiction 60 years ago, from exploring new ways to deliver retinal gene therapy, to developing a method to replace damaged photoreceptor cells, and even taking a preliminary step toward whole-eye transplantation.

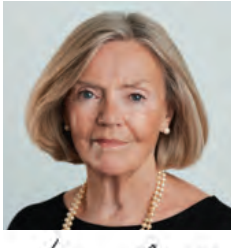
We'd like to thank each of you for your role in RPB's success leading up to this significant anniversary; the anniversary booklet included in this report will give you a sense of what we have accomplished together over the years.

There's yet another timely element to this year's Annual Report: the extraordinary impact of COVID-19 on the world, including the research enterprise. While the research conducted in 2019 was pre-COVID-19, the researchers who conducted it and those who received their grants last year are now feeling the impact of this virus on their lives and work. Our game plan at RPB is to support our grantees without interruption, so that they can continue to apply their passion and talent to finding solutions to all diseases that threaten sight.

Amazingly, some of our grantees are also harnessing their considerable scientific skillset (and RPB unrestricted department funding) for COVID-19-related research, including vaccine development, exploring ways to prevent virus progression and studying the effects of potential treatments on eye health. This work is a testament to the interconnected nature of scientific inquiry and to the ingenuity of the researchers we fund. At RPB, we've always believed that we're funding more than a project or an ophthalmology department—we're funding the people who drive innovation.

This legacy of innovation, and the hope it inspires, has been a hallmark of RPB's existence for the past 60 years. It is one we intend to carry far into the future. To this end, we've committed to offering our full grant program in 2020, despite challenging economic conditions. We thank you sincerely for your support, which enables sight-saving research and signals a promise for a brighter future.

With gratitude and wishes for good health,



Diane S. Swift
Chairman

Brian F. Hofland, PhD
President

Current Grants

RPB-supported researchers at academic medical centers across the country are pushing the boundaries of scientific knowledge. Their work leads to critical new knowledge about diseases that threaten sight, including glaucoma, age-related macular degeneration, low vision, amblyopia, retinitis pigmentosa, diabetic retinopathy and many more.

In 2019, RPB:

Supported
142
active grants

Made new grants to
31
outstanding researchers
(see page 8 for details)

Was cited as a funder of
1,390
new scientific studies

Provided
$7.24 million
to individual investigators for critical research

Distributed
$3.98 million
in unrestricted support to high-performing departments of ophthalmology

Active RPB grants were applied across the entire spectrum of research. Our grantees report that their work falls into the following categories:

112 BASIC

56 CLINICAL

120 TRANSLATIONAL

*Denotes number of active research projects in each category. Researchers could choose more than one category if appropriate.

RPB Grants: A Two-Pronged Approach

RPB offers two types of grants—individual and unrestricted—but no matter the grant category, excellent research is the priority.

Unrestricted Grants

RPB provides exceptional departments of ophthalmology (as determined by rigorous peer review) with $75,000 – $115,000 a year in unrestricted funding. As one of the few sources of unrestricted funds, RPB grants provide the flexibility that enables true innovation.

Allocated by the department chair, the funds can be deployed throughout the department to respond to timely research opportunities, such as investigating the impact of potential COVID-19 treatments on the eye; to allow a seasoned researcher to start a groundbreaking new line of research; or to purchase a cutting-edge piece of scientific equipment that can be used by multiple researchers.

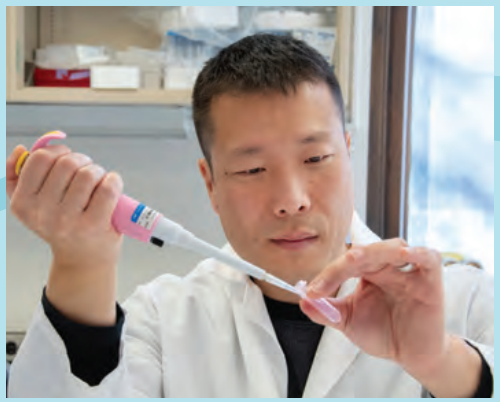
Individual Grants

RPB offers a variety of individual grants—from those based on career-stage to those focused on specific diseases. These restricted grants allow researchers to pursue specific proposals that will advance vision science in a critical way.

All individual grants undergo rigorous scientific review by two review committees in order to assess the relevance and feasibility of the proposed research, as well as the scientific excellence of the researcher and the environment in which the research will take place.

Current Grantees at Work

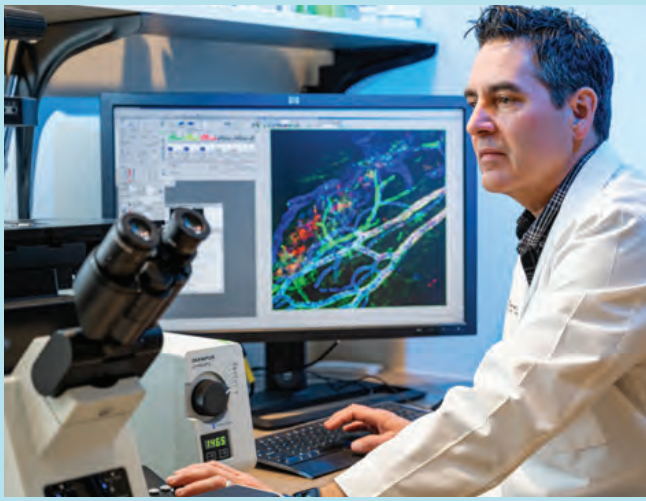
Paul Shin-Hyun Park, PhD, Associate Professor, Department of Ophthalmology & Visual Sciences, Case Western Reserve University School of Medicine, studies photoreceptor biology and the molecular basis of retinal diseases, including retinitis pigmentosa and congenital stationary night blindness, as part of the department's RPB Unrestricted Grant.



Ashley Brissette, MD, Assistant Professor of Ophthalmology, Weill Cornell Medical College, studies the use of an advanced technology during cataract surgery to improve vision under the umbrella of the department's RPB Unrestricted Grant.

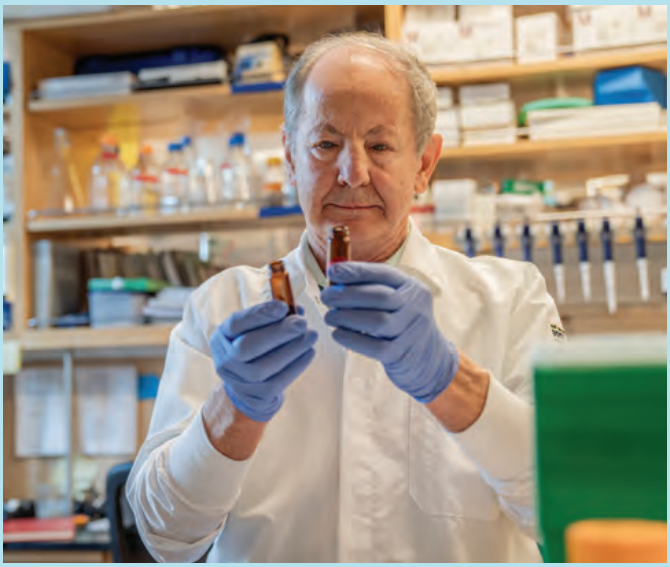
Terri Young, MD, MBA, FARVO (right), Peter A. Duehr Professor and Chair, Department of Ophthalmology and Visual Sciences, University of Wisconsin-Madison School of Medicine & Public Health, and Research Specialist, Kristina Whisenhunt, examine stained eye sections for a primary congenital glaucoma project that is supported by the department's RPB Unrestricted Grant.

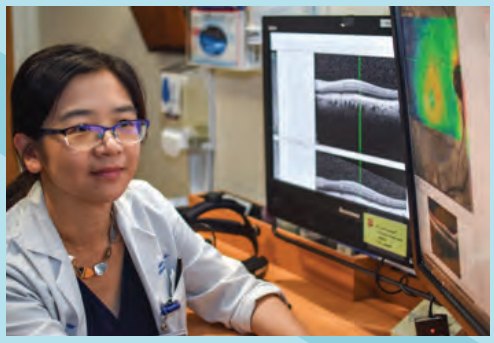
Michael H. Elliott, PhD, FARVO, Associate Professor of Ophthalmology and Physiology, University of Oklahoma College of Medicine, utilizes the department's RPB Unrestricted Grant in his work uncovering the role of membrane organization on the structure and function of ocular cells under normal and pathological conditions.



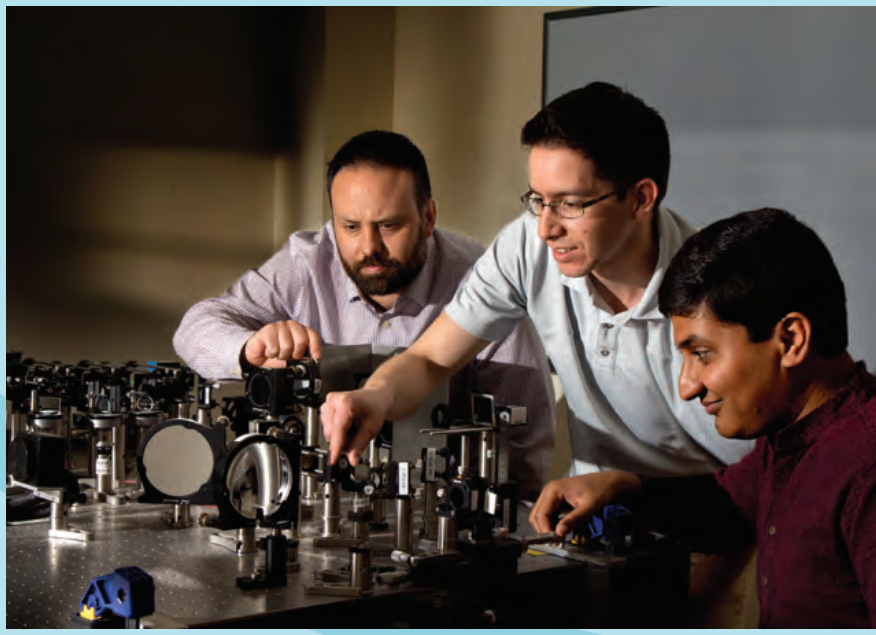
Benjamin J. Frankfort, MD, PhD, Associate Professor, Department of Ophthalmology, Baylor College of Medicine, and recipient of the RPB Physician-Scientist Award, prepares a solution that is used to experimentally elevate eye pressure for his work on glaucoma models.

Timothy Kern, PhD, Professor, Ophthalmology, University of California, Irvine, School of Medicine, uses the department's RPB Unrestricted Grant to support the investigation of new approaches for the treatment and prevention of diabetic retinopathy, including the preparation and testing of new drug cocktails such as the one seen here.





Xi Chen, MD, PhD, Assistant Professor of Ophthalmology, Duke University School of Medicine, and an RPB Career Development Award recipient, reviews high-resolution images from developing structures in the infant retina.



(left to right) **Jesse Schallek, PhD**, Assistant Professor, and researchers **Andreas Guevara-Torres, PhD**, and **Aby Joseph, PhD**, Department of Ophthalmology, University of Rochester School of Medicine and Dentistry, use advanced imaging techniques to isolate and record single cell blood flow dynamics in real time in the living eye, using the department's RPB Unrestricted Grant.

New Grants

RPB is pleased to present its 2019 individual award recipients—31 scientists who are conducting the country's highest quality vision research in order to create sight-saving discoveries.

We look forward to a brighter future for individuals suffering from eye diseases thanks to our grantees' dedication and talent.


Milica Margeta, MD, PhD

RPB Career Development Awards

This award provides $300,000 over 4 years to attract promising MDs, PhDs and MD/PhDs to eye research and to support their early investigations, which helps qualify them for larger federal grants. Their primary appointments must be in ophthalmology and they must show potential for independent research.

Issam Al Diri, PhD
University of Pittsburgh School of Medicine

Studying the regulatory mechanisms that control retinal development with the goal of creating therapeutic strategies for microphthalmia (small eye), which results from disrupted retinal development and has no cure.

Brian Clark, PhD
Washington University in St. Louis School of Medicine

Exploring how gene expression is regulated and governs cell type specification during retinal development.

Kevin K. Fuller, PhD
University of Oklahoma Health Sciences Center

Studying the biology of fungal corneal ulcers—a major source of blindness worldwide—with the long-term goal of developing novel antifungal therapies.

Samuel Herberg, PhD
SUNY Upstate Medical University

Creating an artificial model of the trabecular meshwork—a part of the eye involved in maintaining proper intraocular pressure—in order to better develop and screen new glaucoma therapies.

Milica Margeta, MD, PhD
Harvard Medical School

Exploring the possibility of a specific molecule to mediate the harmful effects of microglia (immune cells in the nervous system) that contribute to retinal ganglion cell degeneration, a hallmark of glaucoma.

Mira Menon Sachdeva, MD, PhD
The Johns Hopkins University School of Medicine

Studying the detrimental effects of diabetes on retinal neurons—an understudied area.

RPB / Dr. H. James & Carole Free Career Development Award

Frans Vinberg, PhD
University of Utah Health Sciences Center

Studying the mechanisms underlying regeneration and dark adaptation in macular photoreceptors, which are cells that detect different wavelengths of light (i.e., color).

Philip R. Williams, PhD
Washington University in St. Louis School of Medicine

Exploring interventions that could prolong the life of retinal ganglion cells—necessary for sending visual information from the eye to the brain—in the early stages of neurodegenerative diseases like glaucoma.

Rachel Wozniak, MD, PhD
University of Rochester School of Medicine & Dentistry

Studying how the organism *Staphylococcus aureus* invades and establishes infections in corneas, leading to bacterial keratitis, one of the most common causes of treatable blindness in the world.

RPB Stein Innovation Awards

This award was developed to uncover and encourage high-risk/high-gain vision science 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.

Seth Blackshaw, PhD

The Johns Hopkins University School of Medicine

Developing a method for replacing damaged photoreceptor cells, which allow us to see light and colors, with new ones via reprogramming of the Muller glia (a type of retinal glial cells).

Valeria Cavalli, PhD

Washington University in St. Louis School of Medicine

Using innovative approaches and cutting-edge technologies to identify compounds that can increase survival and regeneration of retinal ganglion cells, which become injured in glaucoma and lead to vision loss.

Kun Ping Lu, MD, PhD, MSc

Harvard Medical School

Studying molecular mechanisms of neurodegeneration that relate to the protein Tau (implicated in Alzheimer's disease for causing neurofibrillary tangles) in research that encompasses age-related retinal diseases.

Hiroyuki Nakai, MD, PhD

Oregon Health & Science University School of Medicine

Using non-human primates, the researcher will develop "shells" that can encapsulate a specific virus, in order to deliver potent and specific retinal gene therapy.

Seth Blackshaw, PhD

William & Mary Greve Scholar

Eric A. Pierce, MD, PhD

Harvard Medical School / MEEI

Identifying biomarkers that can be used to help measure treatment response in patients with inherited retinal degenerations.

Cynthia A. Toth, MD

Duke University School of Medicine

Building and applying an easy-access device that allows clinicians to view microvascular blockage and injury in a patient's eyes when they are in the hospital after heart surgery with heart-lung bypass.

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.

Jennifer R. Chao, MD, PhD

RPB Sybil B. Harrington Physician-Scientist Award for Macular Degeneration

Jennifer R. Chao, MD, PhD

University of Washington School of Medicine

Developing a new "disease in a dish" model related to degeneration of the retinal pigment epithelium, which is relevant to age-related macular degeneration.

Derek S. Welsbie, MD, PhD

University of California, San Diego, School of Medicine

Undertaking a preliminary step to enable whole-eyeball transplantation: the ability to keep retinal ganglion cells alive and to regenerate lost nerve fibers.

RPB Walt & Lilly Disney Awards 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.

Ione Fine, PhD

University of Washington School of Medicine

Characterizing three separate visual phenomena (loss of visual acuity, flattening of monocular contrast response and binocular suppression) to test the hypothesis that "amblyopia" may actually be three separate visual function deficits.

Michael P. Stryker, PhD

University of California, San Francisco, School of Medicine

Examining the potential of transplanting embryonic neurons to create a second "window" of neural plasticity for the visual cortex as therapy for amblyopia.

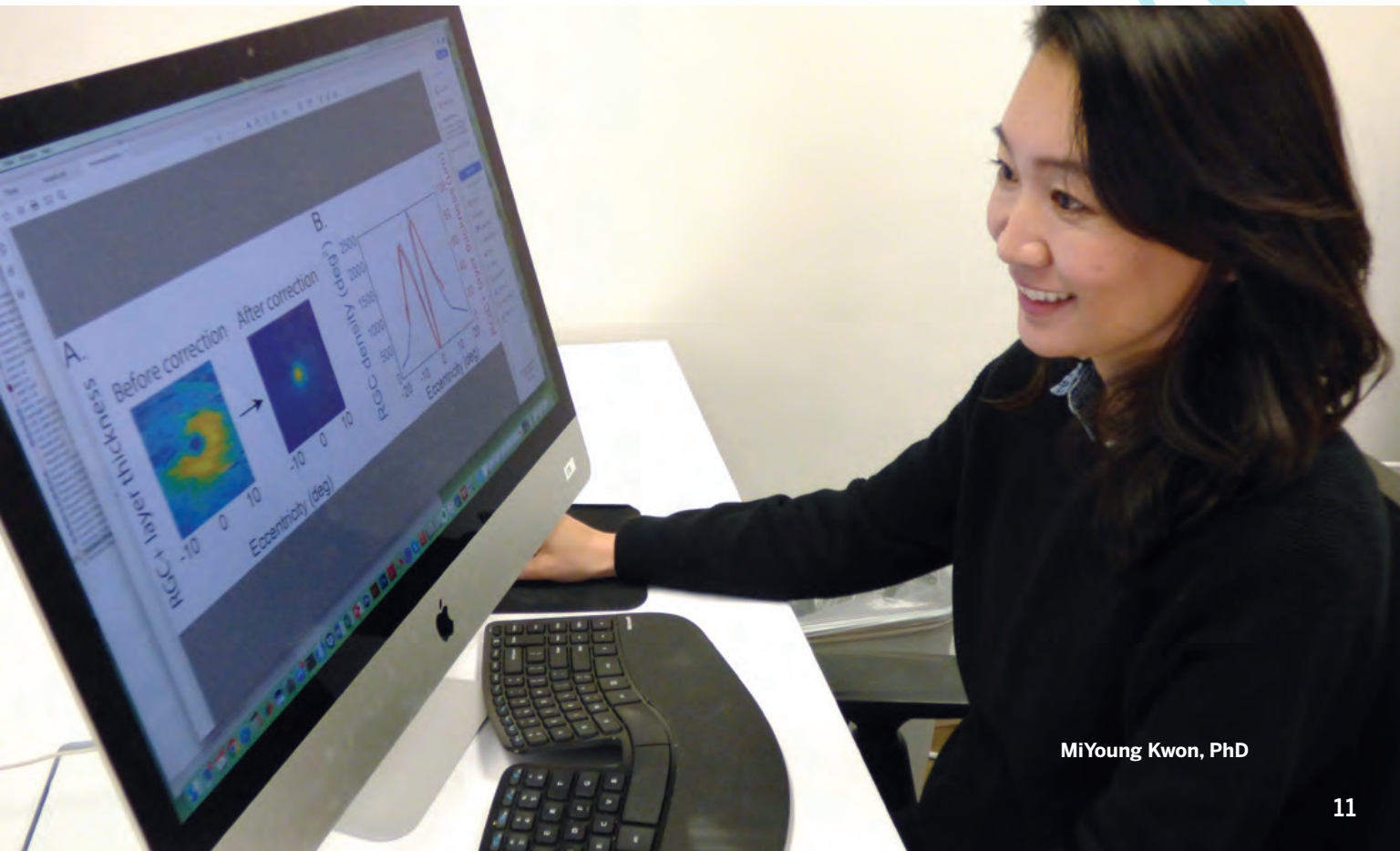
RPB/Lions Clubs International Foundation Low Vision Research Award

Low vision refers to chronic impairment that is not correctable by eyeglasses, medicines or surgery. This $300,000 award focuses on the damaged visual system and seeks to answer such questions as: How is degraded visual input processed? What are the adaptive strategies in the visual pathway in response to visual impairment? How does the brain re-organize itself in response to visual damage?

MiYoung Kwon, PhD

University of Alabama at Birmingham School of Medicine

Studying how different types of visual impairment affect people's ability to perform common visual function tasks.



MiYoung Kwon, PhD

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. In 2019, RPB had two funding partners: the American Macular Degeneration Foundation (AMDF), which co-funded two awards, and the International Retinal Research Foundation (IRRF), which co-funded one award.

RPB/AMDF Catalyst Award

Sabine Fuhrmann, PhD

Vanderbilt University Medical Center

Examining the potential of retinal pigment epithelium cells to regenerate in mature mammalian eyes via specific signaling pathways.

RPB/IRRF Catalyst Award

Monica M. Jablonski, PhD, FARVO

University of Tennessee Health Science Center

Developing polygenetic models of AMD in order to better study disease pathogenesis and test innovative therapies.

RPB/AMDF Catalyst Award

Aparna Lakkaraju, PhD

University of California, San Francisco, School of Medicine

Studying retinal pigment epithelium (RPE) cell damage (a known precursor to AMD), with the goal of learning about the mechanisms that initiate RPE damage and to subsequently relate these processes to the onset of AMD.

RPB Catalyst Award

Kevin L. Schey, PhD

Vanderbilt University School of Medicine

Developing a new tool for AMD diagnosis by adding molecular information to routine optical coherence tomography scans.

Aparna Lakkaraju, PhD

Bryan William Jones, PhD

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 the department of ophthalmology or a relevant department—will be funded to develop a new or deeper collaboration with a reseach lab outside the U.S.

Sybil B. Harrington Scholar

Meredith Gregory-Ksander, PhD
Harvard Medical School / Schepens Eye Research Institute
Collaborator: Victoria McGilligan, PhD, Ulster University (Northern Ireland)
Testing a novel treatment for glaucoma aimed at inhibiting the "NLRP3 inflammasome," which becomes activated during glaucoma and contributes to harmful inflammation of the optic nerve head.

Bryan William Jones, PhD
University of Utah Health Sciences Center
Collaborator: Pete Williams, PhD, Karolinska Institutet, St. Erik Eye Hospital, Stockholm (Sweden)
Determining the basis for mitochondrial changes in early glaucoma in order to eventually develop therapies targeting these dysfunctional mitochondria.

Daniel Saban, PhD
Duke University School of Medicine
Collaborator: Florent Ginhoux, PhD, Singapore Immunology Network (Singapore)
Exploring the mechanisms that drive nerve damage in neurotrophic keratopathy, a painful and potentially blinding disease that affects the cornea.

John Y. Lee (left) and Daniel Pelaez, PhD

RPB Special Scholar Award

These $25,000 to $75,000 awards are named in tribute to individuals who established funds at RPB and are designed to support the research of promising early-career researchers who are assistant professors with primary appointments in ophthalmology.

Ernest & Elizabeth Althouse and Dolly Green Scholar

Takaaki Kuwajima, PhD

University of Pittsburgh School of Medicine

Identifying new molecular targets for retinal ganglion cell axon death—one of the earliest molecular changes linked to optic nerve injury and glaucoma.

RPB Medical Student Eye Research Fellowships

This $30,000 grant allows outstanding medical students to take a year off from medical school and devote time to a research project in an RPB grantee department while working closely with a mentor. The fellowship is designed to stimulate students to consider careers in eye research.

Andrew Chen, conducting research at Cleveland Clinic Lerner College of Medicine of Case Western Reserve University **Mentor: Rishi Singh, MD, Assistant Professor**

Jimmy Chen, conducting research at Oregon Health & Science University School of Medicine **Mentor: Michael F. Chiang, MD, Professor**

John Yohan Lee, conducting research at the University of Miami Miller School of Medicine **Mentor: Daniel Pelaez, PhD, Assistant Professor**

2019 Emerging Vision Scientists Day participants

Special Grants for Partnerships and Collaboration

In 2019, RPB provided special grants to several organizations whose missions align closely with that of RPB's, in order to help advance the entire field of U.S. vision research.

Alliance for Eye and Vision Research (AEVR): $50,000

To enhance AEVR's efforts to educate the public about the value of federally-funded vision research. In 2019, activities conducted under the auspices of AEVR's Decade of Vision 2010 – 2020 Initiative included hosting an Emerging Vision Scientists Day on Capitol Hill. AEVR also hosted multiple Congressional Briefings for Congresspersons and legislative staff that highlighted vision research funded by the National Eye Institute in areas such as dry eye, glaucoma and age-related macular degeneration.

Association of University Professors of Ophthalmology (AUPO): $165,000

To support AUPO's mission, which supports academic departments of ophthalmology and their leadership, as well as promotes excellence in ophthalmic education, fosters vision research and promotes ethical practice and excellence in eye care.

The grant included $40,000 to support the RPB David F. Weeks Award for Outstanding Vision Research, which is administered by AUPO. Named after David F. Weeks, former President and Chairman of RPB, the award annually recognizes and celebrates an outstanding ophthalmic vision scientist whose research has made meaningful contributions to the understanding and/or treatment of potentially blinding eye disease.

Congratulations to the 2019 awardee:

Jayakrishna Ambati, MD, Professor and Vice Chair for Research, University of Virginia School of Medicine

Association for Research in Vision and Ophthalmology (ARVO): $20,000

To support the EyeFind Research Grant Program, which provides researchers with supplemental grant funding of up to $5,000 per project to procure human eye tissue samples from eye banks for use in well-conceived research projects.

American Academy of Ophthalmology (AAO): $280,000

To support the RPB/AAO Awards for IRIS Registry Research, a joint award, administered by AAO, designed to enable 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 2019 awardees:

Subhash Aryal, PhD, Research Associate Professor, University of Pennsylvania School of Nursing

Thomas Lietman, MD, Professor, University of California, San Francisco, School of Medicine

Rishi Singh, MD, Assistant Professor, Cleveland Clinic Lerner College of Medicine of Case Western Reserve University

Jennifer Thorne, MD, PhD, Professor, The Johns Hopkins University School of Medicine

Sustaining Research, Together

RPB is proud to support educational and advocacy activities that benefit the entire field of vision research, but we don't do this alone. By collaborating with like-minded organizations in 2019, we are able to achieve more in our shared mission to strengthen the vision research community. It's a win-win!

Congressman Steve Cohen (D-TN), left, speaks with Sumit Sharma, MD (Cleveland Clinic/Cole Eye Institute), and Shefa Gordon, PhD, NEI's Director of the Office of Program Planning and Analysis, at the 2019 Emerging Vision Scientists Day.

Advocating for Federal Funding

RPB was proud to support the Alliance for Eye and Vision Research's (AEVR's) Fifth Annual Emerging Vision Scientists (EVS) Day on Capitol Hill in September 2019. The event, which occurred as Congress was working to finalize Fiscal Year 2020 appropriations, enabled 20 early-stage investigators to share their research into emerging therapies and technologies with Members of Congress and their staffs. The investigators used their own personal experience as researchers, combined with training and materials from AEVR, to make the case that federal support of vision research via the National Eye Institute will lead to breakthroughs in the prevention and treatment of vision disorders. The effect was two-fold: Members of Congress and their staffs were educated about the importance of vision research in addressing major public health challenges, such as glaucoma and age-related macular degeneration, and the researchers came away from the event with newfound confidence in their role as scientific advocates.

Medical residents with an interest in ophthalmology participate in The Heed Ophthalmic Foundation's Annual Residents Retreat.

Nurturing Ophthalmology Careers

RPB supported The Heed Ophthalmic Foundation's Annual Residents Retreat, an event designed to encourage promising medical residents who are interested in ophthalmology to become academic researchers and clinicians. The residents participated in professional development exercises, heard presentations from successful academic ophthalmologists and networked with each other.

RPB's event was attended by representatives from more than 30 organizations that fund vision research.

Convening Vision Research Funders

RPB hosted its sixth "Vision Research Funding Partnership" event, bringing together leaders from more than 30 other organizations that fund vision research. The event is designed to bring together stakeholders—from the non-profit, government and for-profit sectors—to identify synergies where funders might work together to maximize their impact. The meeting also gives funders the opportunity to learn about new trends in the field. This year's theme was The Eye as the Window to Overall Health. The event was co-sponsored by the E. Matilda Ziegler Foundation for the Blind, Foundation Fighting Blindness, Glaucoma Research Foundation, That Man May See, EyeSight Foundation of Alabama, International Retinal Research Foundation and Lighthouse Guild.

Communicating the Value of Research

As a result of discussions held at previous vision funder convenings (such as the one summarized above), RPB started a project designed to enhance digital advocacy for vision research. The Vision Research Messaging Working Group, a collaboration between 10 organizations that fund vision research, started its work in 2019 to develop a digital messaging campaign that will communicate the essential nature of vision research to key stakeholder groups. RPB is leading the Working Group, which also includes the following organizations: Alliance for Eye and Vision Research, American Academy of Ophthalmology, American Macular Degeneration Foundation, Association for Research in Vision and Ophthalmology, EyeSight Foundation of Alabama, Foundation Fighting Blindness, Glaucoma Research Foundation, International Retinal Research Foundation and the National Eye Institute. The campaign will launch in the second half of 2020.

2019 RPB APPROVED GRANTS TOTAL: $11,735,000*

U.S. medical schools receiving new 2019 departmental and/or individual investigator awards

STATE	RPB GRANTEE INSTITUTIONS	TOTAL GRANTS 2019	TOTAL SUPPORT INCLUDING 2019
ALABAMA	University of Alabama at Birmingham School of Medicine	$ 415,000	$ 5,245,000
CALIFORNIA	David Geffen School of Medicine at UCLA	115,000	9,810,750
	University of California, Irvine, School of Medicine	115,000	1,170,000
	University of California, San Diego, School of Medicine	415,000	4,350,000
	University of California, San Francisco, School of Medicine	515,000	12,019,256
	Keck School of Medicine of the University of Southern California	115,000	5,924,795
FLORIDA	University of Florida College of Medicine	115,000	4,995,600
	University of Miami Miller School of Medicine	145,000	5,482,700
ILLINOIS	University of Illinois at Chicago College of Medicine	115,000	5,496,712
IOWA	University of Iowa Carver College of Medicine	115,000	5,467,425
MARYLAND	The Johns Hopkins University School of Medicine	715,000	11,735,140
MASSACHUSETTS	Harvard Medical School	1,090,000	12,200,315
	Tufts University School of Medicine	300,000	3,828,697
MICHIGAN	The Regents of the University of Michigan School of Medicine	115,000	9,683,050
	Wayne State University School of Medicine	115,000	4,633,000
MISSOURI	Washington University School of Medicine in St. Louis	1,015,000	9,334,981
NEW YORK	Columbia University College of Physicians & Surgeons	115,000	6,918,167
	Weill Cornell Medical College	115,000	5,883,700
	New York University	115,000	2,467,250
	University of Rochester School of Medicine & Dentistry	415,000	5,020,250
	SUNY Upstate Medical University	415,000	3,575,000
NORTH CAROLINA	Duke University School of Medicine	490,000	9,240,150
OHIO	Cleveland Clinic Lerner College of Medicine	145,000	4,635,000
OKLAHOMA	University of Oklahoma Health Sciences Center	415,000	6,001,600
OREGON	Oregon Health & Science University School of Medicine	445,000	6,932,150
PENNSYLVANIA	University of Pennsylvania School of Medicine	115,000	7,018,500
	University of Pittsburgh School of Medicine	540,000	6,443,372
TENNESSEE	University of Tennessee Health Science Center	300,000	3,560,000
	Vanderbilt University School of Medicine	715,000	4,635,500
TEXAS	Baylor College of Medicine	115,000	5,644,060
	University of Texas Southwestern Medical Center at Dallas	115,000	5,136,000
UTAH	University of Utah Health Sciences Center	490,000	6,500,300
WASHINGTON	University of Washington School of Medicine	515,000	5,547,638
WISCONSIN	University of Wisconsin-Madison School of Medicine	115,000	6,718,750

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

School that received earlier RPB support but no new grant in 2019: Stanford University School 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 selected ophthalmology department chairs and 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.

2019 RPB SCIENTIFIC ADVISORY PANEL

Robin Ali, PhD, FMedSci
Professor Human Molecular Genetics
Head of Department of Genetics
Division of Molecular Therapy
UCL Institute of Ophthalmology

Visiting Professor
Kellogg Eye Center, University of Michigan

Vadim Y. Arshavsky, PhD
Helena Rubinstein Professor and Scientific Director, Department of Ophthalmology
Professor, Department of Pharmacology and Cancer Biology
Duke University Medical Center

Peter A. Campochiaro, MD
George S. & Dolores Dore Eccles Professor of Ophthalmology and Neuroscience
Director, Retinal Cell and Molecular Laboratory
The Wilmer Eye Institute
Johns Hopkins School of Medicine

Anne L. Coleman, MD, PhD
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Department of Ophthalmology
David Geffen School of Medicine
University of California at Los Angeles

Professor in Department of Epidemiology
Jonathan and Karin Fielding School of Public Health
University of California at Los Angeles

Jonathan M. Holmes, MD
Joseph E. and Rose Marie Green Professor of Visual Sciences and Professor of Ophthalmology
Mayo Clinic

David Huang, MD, PhD
Peterson Professor of Ophthalmology
Professor of Biomedical Engineering
Casey Eye Institute
Oregon Health & Science University

Roderick R. McInnes, CM, MD, PhD, FRSC
Alva Chair in Human Genetics
Professor of Human Genetics
Professor of Biochemistry
McGill University

J. Anthony Movshon, PhD
University Professor and Silver Professor
Center for Neural Science
New York University

Professor of Ophthalmology and of Neuroscience and Physiology
NYU Langone School of Medicine

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