

# 2018

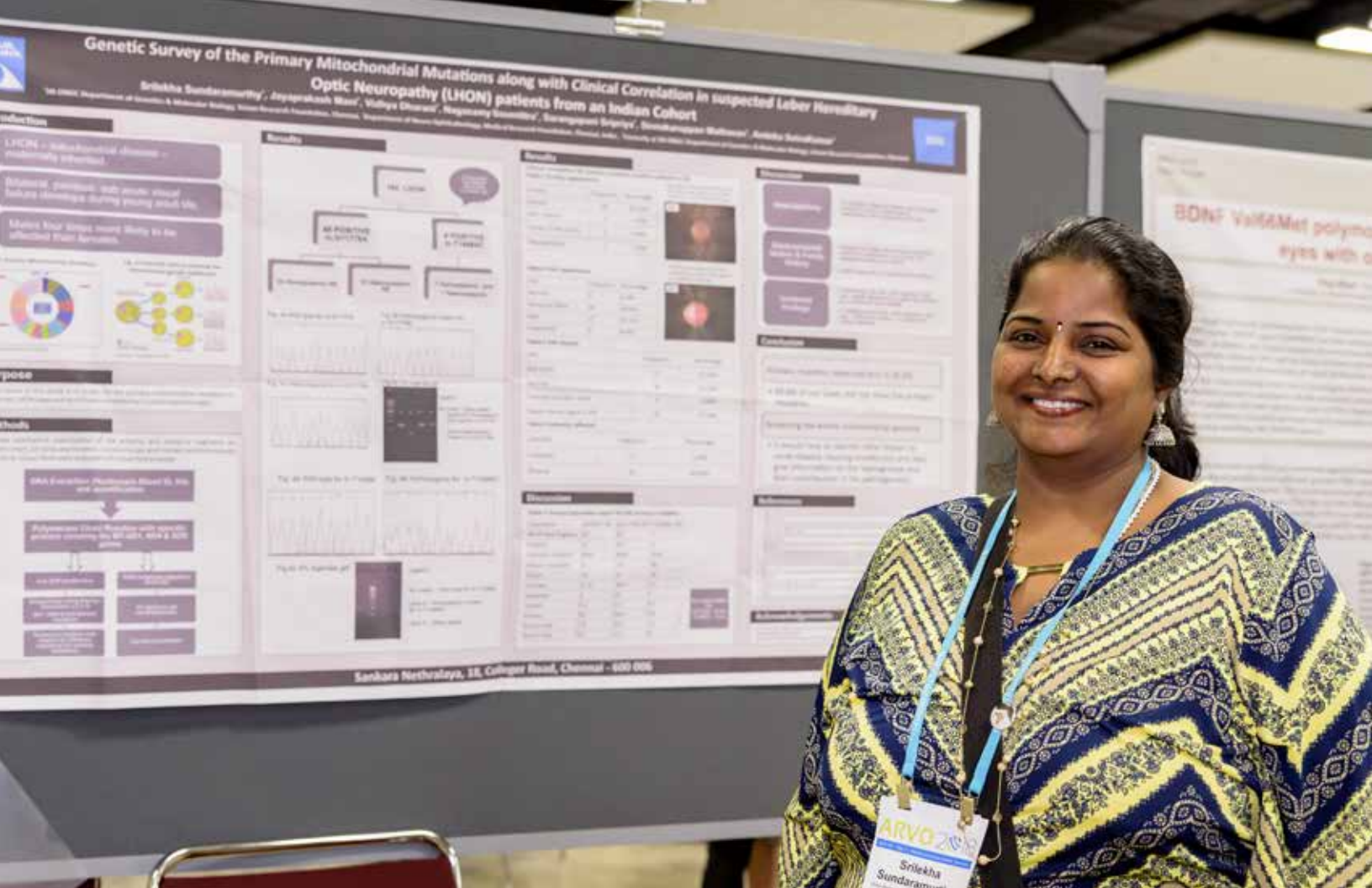
## Annual Report

### A vision for the future



**ARVO Foundation**  
for Eye Research®





# Genetic Survey of the Primary Mitochondrial Mutations along with Clinical Correlation in suspected Leber Hereditary Optic Neuropathy (LHON) patients from an Indian Cohort

Srilekha Sundaramurthy<sup>1</sup>, Jayaprakash Bhat<sup>2</sup>, Malliga Elavarasi<sup>3</sup>, Nageswari Sundaram<sup>4</sup>, Sankaranarayanan Srinivas<sup>5</sup>, Sankaranarayanan Mallikarjun<sup>6</sup>, Anubha Sankaranarayanan<sup>7</sup>

<sup>1</sup>Dr. Bhat, Department of Genetics & Molecular Biology, Anna Research Foundation, Chennai, <sup>2</sup>Department of Neuro-Ophthalmology, Madhav Medical Institute, Chennai, <sup>3</sup>University of Madras, Department of Genetics & Molecular Biology, <sup>4</sup>Department of Genetics & Molecular Biology, Anna Research Foundation, Chennai, <sup>5</sup>Department of Genetics & Molecular Biology, Anna Research Foundation, Chennai, <sup>6</sup>Department of Genetics & Molecular Biology, Anna Research Foundation, Chennai, <sup>7</sup>Department of Genetics & Molecular Biology, Anna Research Foundation, Chennai

## Introduction

LHON is a mitochondrial disease - maternally inherited

Patients present with acute visual failure (blindness) during young adult life

Major risk factor is recent study to be affected (blindness)



## Purpose

To study the genetic and clinical correlation in LHON patients from an Indian cohort

## Methods

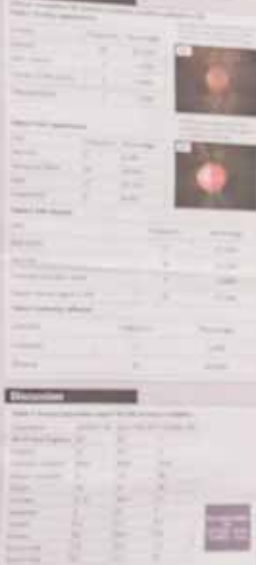
Genetic analysis of LHON patients from an Indian cohort



## Results



## Results



## Discussion

The results of this study show that the majority of LHON patients from an Indian cohort have the m.11775G>A mutation. This is consistent with previous studies from other Indian cohorts. The clinical features of LHON patients from an Indian cohort are also similar to those reported in other studies. The results of this study suggest that the m.11775G>A mutation is the major cause of LHON in Indian patients.

Sankara Nethralaya, 18, Collier Road, Chennai - 600 006

ARVO 2020  
Srilekha Sundaramurthy

# 2018 by the numbers



**179**

Travel grants awarded



**\$210,000**

Invested in  
research grants & fellowships



**672**

ARVO members and friends  
who supported the  
ARVO Foundation with a gift



**3**

Grants given to help authors with  
financial need publish in ARVO journals



**\$63,500**

Awarded to recognize and  
encourage innovative research

## Our purpose

The ARVO Foundation raises funds through partnerships, grants and sponsorships to support ARVO's world-class education and career development resources for eye and vision researchers.

# A message from the Chair

In April 2018, I stepped into the big shoes of J. Mark Petrash, PhD, FARVO as I assumed the role of Chair of the ARVO Foundation Board of Governors.

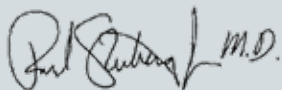
My first days as Chair were during the ARVO 2018 Annual Meeting in Honolulu, where I saw the mission of the ARVO Foundation shine through: to help bring people to the meeting who otherwise may not be able to participate, to support special guest speakers, to reward talented and innovative scientists and to enhance the ARVO experience.

With the support of many generous ARVO members in Honolulu, we met the fundraising challenge issued by Joyce Tombran-Tink, PhD, FARVO and Colin J. Barnstable, DPhil, FARVO and raised more than \$32,000 to support travel awards for ARVO 2019.

This past year was also highlighted by the addition of two new funding opportunities to the ARVO Foundation's growing portfolio: the Bert M. Glaser, MD Award for Innovative Research in Retina, which will recognize a bright young scientist working in retina, and the Ramesh and Brenda Tripathi Vision Research Fund, which will help underwrite several of ARVO's mentorship and career development programs.

Thank you for your generosity as we seek to attract, support and retain the talented young minds in our field.

Gratefully,



Paul Sternberg, Jr., MD, FARVO  
Chair, ARVO Foundation Board of Governors



Left: Matching gift challenge donors Joyce Tombran-Tink, PhD, FARVO and Colin J. Barnstable, DPhil, FARVO

Top right: Young representatives of the ARVO Chapter Affiliate in Hungary at ARVO 2018

Bottom left: ARVO/Alcon Keynote Series opening speaker Jennifer Doudna, PhD





# ARVO Foundation travel grants

The ARVO Foundation awarded 179 travel grants through 30 named funds in 2018, benefitting trainees from 15 countries. These travel grants underwrite the cost of attendance for the ARVO Annual Meeting, allowing young scientists to present their research and network with other eye and vision researchers from around the world.

American Macular Degeneration  
Foundation Travel Grants  
ARVO Staff Travel Grant  
ARVO Foundation Travel Grants  
Elizabeth Anderson Travel Grants  
Joanne G. Angle Travel Grants  
Grant Wood Balkema Memorial  
Travel Grant  
Robert B. Barlow, Jr. Travel Grant  
IRCCS-Fondazione G. B. Bietti per lo  
Studio e la Ricerca in Oftalmologia-  
ONLUS Travel Grants  
BrightFocus Foundation Travel  
Grants  
Ramon F. Dacheux II Memorial  
Travel Grant  
Marij and Paulus de Jong Travel  
Grant  
M. Velma Dobson Memorial Travel  
Grant

C. Stephen and Frances B. Foster  
Foundation Travel Grant  
Qais Farjo, MD Memorial Travel  
Grants  
Foster Ocular Immunology Society  
Travel Grants  
G. M. Jager Travel Grant  
Murray and Jeanie Johnstone Travel  
Grant  
Karamichos/Utheim Keratoconus  
Travel Grant  
Knights Templar Eye Foundation  
Travel Grants  
Sarla P. Kothary Memorial Travel  
Grant  
Kowa Travel Grant  
Kreissig Travel Grant  
Lens and Cataract Travel Grant  
Lions Eye Institute for Transplant  
and Research Travel Grants  
Richard Newton Lolley Travel Grant

Friederike Mackensen Travel Grant  
NIHR Moorfields Biomedical  
Research Centre Travel Grants  
Ocular Immunology and Uveitis  
Foundation Travel Grant  
Overseas Chinese Association for  
Vision and Eye Research (OCAVER)  
Travel Grant  
David R. Pepperberg Travel Grant  
Reader's Digest Partners for Sight  
Foundation Travel Grants  
Retina Research Foundation/Joseph  
M. and Eula C. Lawrence Travel  
Grants  
Bosco Tjan Memorial Travel Grant  
Josh Wallman Travel Grant  
Women in Eye and Vision Research  
(WEAVR) Travel Grants  
Gerhard Zinser Memorial Travel  
Grant



### **Sanja Petrovic Pajic**

Clinical Centre of Serbia  
2018 Kreissig Travel Grant  
recipient

“I am thankful for the opportunity to take part in probably the biggest and certainly the most important vision research meeting. This has helped me to gather new ideas, discuss my work with the leading world experts, acquire new knowledge and to establish contacts with so many young researchers.”



### **Ryan Salvador**

National Institute of Health  
2018 Ocular Immunology  
and Uveitis Foundation  
Travel Grant recipient

“Attending the meeting allowed me to present my data and meet people from all over the world whose research I have only read in print. It was a great opportunity to meet a diverse group of like-minded individuals to get feedback and learn about my focus on autoimmune uveitis.”



### **Jacob Heng**

Johns Hopkins University  
2018 Joanne G. Angle  
Travel Grant recipient

“Attending the ARVO 2018 meeting allowed me to share my work with a diverse international audience. This gave me the invaluable experience of giving an oral presentation in a large international meeting while also allowing me to gather helpful feedback on my work. This has helped me to think more critically about my own work.”



### **Janet Hrdina**

University of Rochester  
2018 WEAVR Travel Grant  
recipient

“I found value in both attending the meeting and the opportunity to present. I was thrilled to be able to learn from and converse with so many great minds at the conference; I learned a lot and look forward to contributing to this immense, advancing scientific field. I greatly appreciate your support both in encouragement and monetarily.”



# 2018 Developing Country Eye Researcher Travel Fellowships





The Developing Country Eye Researcher Travel Fellowships (DCERF) program brings aspiring scientists from developing nations to the ARVO Annual Meeting. Each recipient is paired with a volunteer mentor who guides them through ARVO's large scientific meeting.

The goal of the program is to provide young researchers with access to the latest in vision science while offering the opportunity to network with colleagues, mentors and thought leaders to develop an effective vision research program in their home countries.

## 2018 Developing Country Eye Researcher Travel Fellows

### **Luisa Banzon, MD, DPBO**

Asian Eye Institute  
Makati City, Philippines

### **Jeanne Mayouego Kouam, MD**

Nylon District Hospital  
Douala, Cameroon

### **Nina Jovanovic, MD, MSc, MPH**

Canton Hospital Zenica  
Zenica, Bosnia and Herzegovina

### **Melina Mateos, PhD**

Instituto de Investigaciones Bioquímicas de  
Bahía Blanca-UNS-CONICET  
Buenos Aires, Argentina

### **Rafael Lani, MD**

Federal University of Rio de Janeiro  
Rio de Janeiro, Brazil

### **Wilson Ovienria, FWACS, FVRS**

Irrua Specialist Teaching Hospital  
Irrua, Nigeria

### **Kristina Lončarić, MD**

Clinical Hospital Centre Sestre Milosrdnice  
Zagreb, Croatia

### **Srilekha Sundaramurthy, PhD**

Vision Research Foundation, Sankara  
Nethralaya  
Chennai, India

## Program supporters

The Alcon  
Foundation

ARVO 2017 Annual  
Meeting donors

ARVO Asia 2017  
Brisbane

University of  
Wisconsin -  
Madison

Women in Eye and  
Vision Research  
(WEAVR)

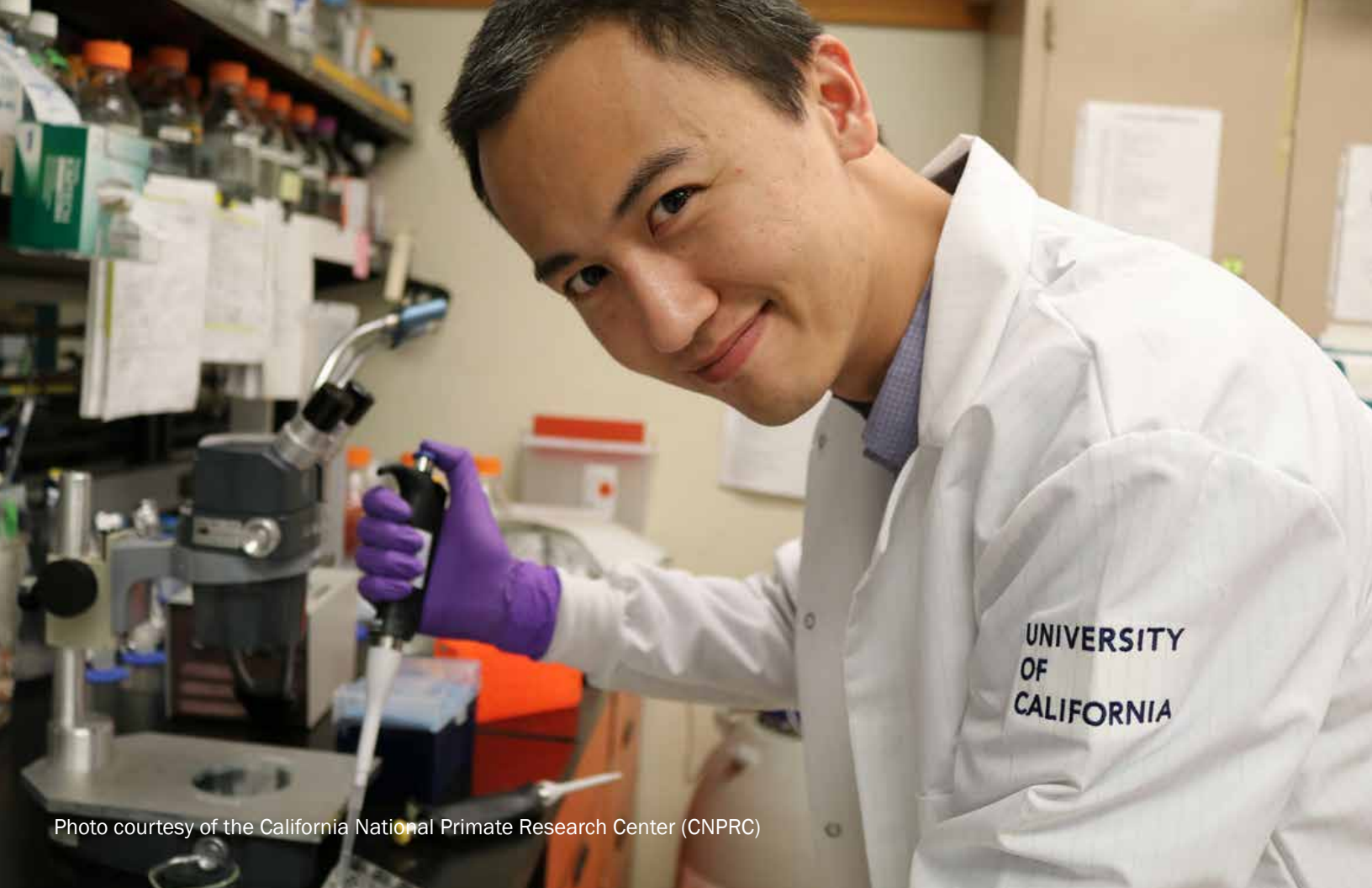


Photo courtesy of the California National Primate Research Center (CNPRC)

# Modeling future treatments for AMD

## Glenn Yiu, MD, PhD

Glenn Yiu, MD, PhD, was awarded the 2016 Genentech AMD Research Fellowship for his work as an early-career clinician-scientist. The grant provided Yiu the opportunity to design and create an innovative animal model that combines viral and light delivery into the eye to improve our understanding of age-related macular degeneration, which can potentially provide novel therapies for AMD patients.

“Lack of funding is a major issue for early-career researchers,” said Yiu. “For a clinician-scientist like myself, career development awards provide salary support to give us time to do research. They help get early investigators on their feet during those first few critical years of their career. I thank the ARVO Foundation for providing these grant opportunities which are so critical in helping junior investigators become independent.”

Yiu’s research combines viral-mediated gene delivery and ocular imaging to create a novel animal model of AMD. He plans to continue this translational research program in AMD as he expands his research team and refines his area of focus.



“The ultimate animal model we hope to develop would employ nonhuman primates like rhesus monkeys, which have better resemblance to humans and can better predict a treatment’s effectiveness in human clinical trials. The research from this ARVO Foundation grant is helping us to apply for additional funding for work in rhesus monkeys,” adds Yiu.

# 2018 Award recipients

## **ARVO/Alcon Early Career Clinician-Scientist Research Awards**

These \$3,000 awards, funded by the Alcon Foundation, recognize significant research being presented at the ARVO Annual Meeting by young clinician-scientists.

### **Juan Carlos Serna-Ojeda, MD, MSc**

Patronato Banco de Ojos y Tejidos de Aguascalientes  
Aguascalientes, Mexico  
*Boston Type I Keratoprosthesis versus a low-cost design, the Auro Keratoprosthesis*

### **Chunyi Shao, MD, PhD**

Shanghai Ninth People's Hospital, Shanghai Jiao Tong  
University School of Medicine  
Shanghai, China  
*Local delivery of regulatory T cells promotes corneal allograft survival*

### **Eisuke Shimizu, MD**

Keio University School of Medicine  
Tokyo, Japan  
*Positive effects of oral antibiotics administration to murine graft-versus-host disease*

### **Yi Qin, MD, PhD**

Beijing Tongren Eye Center  
Beijing, China  
*Labial salivary gland transplantation for severe dry eye in a rhesus monkey model*

## **Pfizer Ophthalmics Carl Camras Translational Research Awards**

These \$12,000 awards are given to early-career scientists who exhibit excellence in research. Their discovery or observation must have led to, or have the promise of leading to, clinical applications.

### **Shannon Boye, PhD**

University of Florida  
Gainesville, FL.

### **Joseph Carroll, PhD, FARVO**

Medical College of Wisconsin  
Milwaukee, Wisc.

### **Amitha Domalpally, MD, PhD**

University of Wisconsin-Madison  
Madison, Wisc.



# 2018 Award recipients

## Dr. David L. Epstein Award

This \$100,000 award is given in memory of Dr. David L. Epstein to a well-established, senior level investigator with a documented history of conducting eye and vision research in glaucoma and a record of accomplishment in successfully mentoring clinician-scientists to independent research in academic careers.

**Mentor: Janey Wiggs, MD, PhD, FARVO**

**Mentee: Ryan Collantes, MD**

Harvard Medical School  
Boston, Mass.

*Genetics of childhood glaucoma in the Philippines: genetic testing, gene discovery and implications for treatment*

## Genentech AMD Research Fellowships

Supported by Genentech, these \$40,000 research fellowships offer two awards annually for age-related macular degeneration: one for basic and one for translational research.

### Basic AMD Research Fellowship:

**Kevin Schneider, PhD**

University of California Irvine  
Irvine, Calif.

*The role of microRNA in the development and progression of AMD*

### Translational AMD Research Fellowship:

**Rosario Fernandez-Godino, PhD**

Mass Eye and Ear/Harvard University  
Boston, Mass.

*Targeting complement activation via tick-over: a prophylactic treatment for dry AMD*

## Oberdorfer Award in Low Vision Research

Named in honor of Michael D. Oberdorfer, PhD and supported by the Lighthouse Guild, this \$1,250 award is given to an invited speaker at the ARVO Annual Meeting whose presentation is on a topic related to low vision.

**Edith E. Holloway, PhD**

Centre for Eye Research Australia  
Melbourne, Australia

*Preventing depression in low vision patients: Implementation and scale-up of an early psychological intervention for depressive symptoms*

# 2018 Award recipients

## Roche Collaborative Research Fellowships

This \$10,000 fellowship, which is supported by Roche, promotes international scientific interactions and innovation by pairing researchers from developing countries with well-established research scientists for a one-year collaborative project.

### Jeremias G. Galletti, MD, PhD

Institute of Experimental Medicine, National Academy of Medicine/CONICET

Buenos Aires, Argentina

*Characterization of regulatory T cell populations involved in ocular surface immune tolerance*

### Collaborating researcher:

Cintia S. de Paiva, MD, PhD

Baylor College of Medicine

### Samuel Kyei, OD, PhD

University of Cape Coast

Cape Coast, Ghana

*Assessing adherence to glaucoma treatment in Ghana*

### Collaborating researcher:

Lyne Racette, PhD

University of Alabama at Birmingham

### Srilekha Sundaramurthy, PhD

Vision Research Foundation, Sankara Nethralaya

Chennai, India

*Mitochondrial genome landscape analysis in an Indian cohort of Lebers Hereditary Optic Neuropathy (LHON) patients negative to primary mutation (G3460A, G11778A, T14484C)*

### Collaborating researcher:

Patrick Yu-Wai-Man, MD, PhD

University of Cambridge and Moorfields Eye Hospital

## Dr. Roger Vogel Award for Pharmaceutical Research

Established to honor the memory of Dr. Roger Vogel, this \$10,000 award is given to an ARVO member whose research furthers the development of pharmaceutical treatments for ophthalmic diseases.

### Gary D. Novack, PhD

PharmaLogic Development, Inc.

# Women in Eye and Vision Research

The Women in Eye and Vision Research (WEAVR) initiative celebrated its tenth year in 2018.

The milestone was marked with more than 420 attendees – the most ever – at the 10th Annual WEAVR Luncheon, which raises funds to support women in science. Attendees networked over lunch and Emily Y. Chew, MD, FARVO, deputy clinical director and the director of the division of epidemiology and clinical applications at the National Eye Institute, spoke about the importance of replication in science. Chew's presentation sparked a lively dialogue with many comments from junior and senior investigators alike.

WEAVR also introduced a new offering at the ARVO 2018 Annual Meeting: the WEAVR Drop-In Mentoring Program. Mid- and senior-level volunteers were available during designated times in the exhibit hall to provide guidance and career advice from a female perspective.



Top left: Geeta K. Vemuganti, MD, FARVO (right) offers guidance during the WEAVR Drop-In Mentoring hours

Top right: 2018 WEAVR Travel Grant recipients Janet Hrdina (left), Jaya Chidambaram (right) and WEAVR DCERF awardee Jeanne Mayouego Kouam (center)



Bottom left: WEAVR Luncheon speaker Emily Y. Chew, MD, FARVO.

# Volunteer with a vision

## Terri L. Young, MD, MBA, FARVO



Terri L. Young, MD, MBA, FARVO, Chair of the Department of Ophthalmology and Visual Sciences at the University of Wisconsin-Madison, is an ARVO volunteer all-star. She has served on the Annual Meeting Program Committee, mentored researchers from developing countries and chaired the Diversity Initiatives Committee. Currently, she sits on the Editorial Boards of *IOVS*, is a reviewer on the ARVO Foundation Awards Committee and chairs the Women in Eye and Vision Research (WEAVR) Leadership Committee. In 2019, she will join the ARVO Foundation Board of Governors.

The highlight of her tenure as an ARVO volunteer has been her experience with WEAVR. Under her leadership, WEAVR, known for its popular fundraising luncheon at the ARVO Annual Meeting, has expanded to find other ways to support women in science. Young initiated two programs at the ARVO Annual Meeting: the WEAVR Drop-In Mentoring Program, where volunteers meet with young researchers seeking career guidance from

a female perspective, and the first WEAVR Workshop. The inaugural all-female workshop panel includes academics and entrepreneurs sharing their stories of success in applying science to a business model.

“I am extremely honored to serve in all capacities,” said Young. “ARVO has been the biggest constant in my academic career. I attended my first ARVO meeting in 1989 as an ophthalmology resident, and was thrilled to be chosen to present a poster. I returned two years later to give my first platform presentation, for which I was both honored and terrified. From this experience, I recognized that ARVO provides a unique forum for researchers nationally and internationally to contribute in meaningful ways to specialized areas in vision science unlike any other conference. I’ve been hooked since 1991 and have never missed an ARVO meeting since then. It has been a privilege to use my perspective as a pediatric ophthalmologist, clinician-scientist and leader to serve and to help guide others.”





Terri L. Young, MD, MBA, FARVO (second from left) with WEAVR Luncheon attendees at ARVO 2017 in Baltimore, Md.





# 2018 ARVO Foundation Gala

At the memorable 2018 ARVO Foundation Gala, more than 530 friends and colleagues enjoyed a picture-perfect evening under the palm trees in Honolulu to support the ARVO Foundation and recognize the 2018 ARVO Foundation Honorees:

## **Shigeru Kinoshita, MD, PhD, FARVO**

Dr. Kinoshita was recognized for his service to ARVO and his generous financial support of the ARVO Foundation, including as a founding member of the Dowling Society.



Top left: Shigeru Kinoshita, MD, PhD, FARVO accepts his award

## **Nicolas G. Bazan, MD, PhD, FARVO**

Dr. Bazan was recognized for his leadership of and dedication to the ARVO Foundation since its inception, including as a chairman of the board and as a generous financial supporter.



Top right: ARVO and ARVO Foundation Executive Director Iris M. Rush, CAE (left) with Nicolas G. Bazan, MD, PhD, FARVO (right)

## **Alice R. McPherson, MD**

Dr. McPherson was recognized for her leadership through the Retina Research Foundation, including supporting travel grants for trainees.

Bottom left: Gala Emcees Julia A. Haller, MD, FARVO (left) and Cheryl M. Craft, PhD, FARVO (right) with Alice R. McPherson, MD (center)

## 2018 New Members

Colin J. Barnstable,  
DPhil, FARVO

Paul S. Bernstein, MD,  
PhD, FARVO

Jeffrey H. Boatright, PhD,  
FARVO

Janet C. Blanks, PhD,  
FARVO

Rafal Farjo, PhD

Ronald E. P. Frenkel, MD

David Huang, MD, PhD,  
FARVO

Dimitrios Karamichos,  
PhD

Alice R. McPherson, MD

Robert F. Miller, MD,  
FARVO

Frances J. Rucker, PhD,  
MCOptom

Iris M. Rush, CAE

Lawrence J. Singerman,  
MD, FACS

William Eric Sponsel, MD  
Gloria Sternberg

Elena Yorio

# Dowling Society

The Dowling Society recognizes individuals for their significant support for eye and vision research with a commitment of \$10,000 or more. The society is named for vision researcher and first Chairman of the ARVO Foundation, John E. Dowling, PhD, FARVO.

Gary W. Abrams, MD, FARVO  
and Jane C. Werner, MD

Jayakrishna Ambati, MD,  
FARVO

Robert E. Anderson, MD, PhD,  
FARVO

Joanne Angle\*, MLS, MPA

Sally S. Atherton, PhD, FARVO  
and Robert Atherton

Robert B. Barlow\*, PhD,  
FARVO and Patricia Barlow

Haydee E. P. Bazan, PhD,  
FARVO and Nicolas G. Bazan,  
MD, PhD, FARVO

Bernard Becker\*, MD, FARVO

David C. Beebe\*, PhD, FARVO  
and Mrs. Betsy Beebe, PA-C

Paul S. Bernstein, MD, PhD,  
FARVO

Eliot L. Berson\*, MD, FARVO  
and Kyra Kaplan-Berson

Roger W. Beuerman, PhD,  
FARVO

Laszlo Z. Bito, PhD

Janet C. Blanks, PhD, FARVO

Jeffrey H. Boatright, PhD,  
FARVO

William J. Brunken, PhD,  
FARVO and Dale D. Hunter,  
PhD, JD

Claude F. Burgoyne, MD,  
FARVO and Vicki Smith

Patrick Burke, MD, PhD

Stanley Chang, MD, FARVO

Steve T. Charles, MD, FACS,  
FICS

Emily Y. Chew, MD, FARVO and  
Robert P. Murphy, MD

Bruce E. Cohan, MD

Lancey B. Cowan, JD, CAE

Cheryl M. Craft, PhD, FARVO

Patricia A. D'Amore, MBA,  
PhD, FARVO

Paulus T. V. M. de Jong, MD,  
PhD, FARVO, FEBOphth,

FRCOphth and Marij de Jong

John E. Dowling, PhD, FARVO  
and Judith F. Dowling

Joseph L. Dowling, MD

Melinda K. Duncan, PhD,  
FARVO

David L. Epstein\*, MD, FARVO  
and Susan M. Epstein, RN,  
JD

Rafal Farjo, PhD

Malinda E.C. Fitzgerald, PhD  
FARVO

Steven J. Fliesler, PhD, FARVO

Robert N. Frank, MD, FARVO

Ronald E. P. Frenkel, MD

Juan E. Gallo, MD, PhD, FARVO

Ronnie Glaser and Bert M.  
Glaser\*, MD, FARVO

Israel A. Goldberg, PhD and  
Diane Goldberg

Evangelos S. Gragoudas, MD,  
FARVO



Hans E. Grossniklaus, MD,  
FARVO

Julia A. Haller, MD, FARVO  
and John D. Gottsch, MD,  
FARVO

Mary Elizabeth Hartnett, MD,  
FARVO

Linda D. Hazlett, PhD, FARVO

John R. Heckenlively, MD,  
FARVO

John A. Hoepner, MD

David Huang, MD, PhD,  
FARVO

Martine J. Jager, MD, PhD,  
FARVO

Murray A. Johnstone, MD,  
and Jeanie Johnstone

Dimitrios Karamichos, PhD

Paul L. Kaufman, MD, FARVO  
and Margaret Kaufman

John L. Keltner, MD and  
Nancy Keltner

Shigeru Kinoshita, MD, PhD,  
FARVO

Ingrid Kreissig, MD

Paul P. Lee, MD, JD, FARVO  
and Jennifer Lee

Marmor Foundation/Michael  
F. Marmor, MD, FARVO

Alice R. McPherson, MD

Jennifer J. Kang-Mieler,  
PhD, FARVO and William F.  
Mieler, MD, FARVO

Ann H. Milam, PhD, FARVO

Joan W. Miller, MD, FARVO

Robert F. Miller, MD, FARVO

Alan R. Morse, PhD

Janice Oliva

Samir C. Patel, MD

Christopher A. Paterson\*,  
PhD, DSc, FARVO

David R. Pepperberg\*, PhD,  
FARVO

J. Mark Petrash, PhD, FARVO  
and Kelly Cope Petrash

Robert Ritch, MD, FARVO

Stella M. Robertson, PhD  
and James D. Robertson,  
PhD

Frances J. Rucker, PhD,  
MCOptom

Iris M. Rush, CAE

Stephen J. Ryan\*, Jr., MD,  
FARVO

David E. Saffer

Jose Alain Sahel, Jr., MD,  
FARVO

Joel S. Schuman, MD, FARVO  
and Carole Miner Schuman

Lawrence J. Singerman, MD,  
FACS

Gregory L. Skuta, MD

Alfred Sommer, MD, MHS

Richard F. Spaide, MD,  
FARVO

William Eric Sponsel, MD

W. Daniel Stamer, PhD,  
FARVO and Catherine  
Bowes Rickman, PhD

Paul Sternberg, Jr., MD,  
FARVO and Gloria Sternberg

Joyce Tombran-Tink,  
PhD, FARVO and Colin J.  
Barnstable, DPhil, FARVO

Carol B. Toris, PhD, FARVO

Erik J. van Kuijk, MD, PhD  
and Virginia Brooke, RN,  
PhD

David R. Williams, PhD,  
FARVO and Inger M.  
Williams, PhD

Terri L. Young, MD, MBA,  
FARVO

Thomas Yorio, PhD, FARVO  
and Elena Yorio

*\*deceased*



# Investing in the future

## Brenda J. Tripathi, PhD, FARVO

On a job interview at the Institute of Ophthalmology at the University of London, Brenda J. Tripathi, PhD, FARVO was introduced to her future husband, Ramesh, also a vision researcher. Their chance meeting in 1969 led to a lifelong partnership that included a dedication to vision research and a commitment to providing financial support to young scientists through their foundation, the Vision Research Foundation.

“We decided it would be nice to have funds available to sponsor students for trips and other activities,” she explains. “We sponsored students who otherwise would not have had the opportunity to get into research.”

In 2017, after Ramesh passed, Brenda decided to transfer their family foundation’s work and its assets to another group to carry forward their mission. Years of involvement with ARVO brought assurance that the ARVO Foundation would carry their dedication to supporting young researchers well into the future.

The ARVO Foundation “aligns with the type of things we were trying to do in our own small way – foster young individuals, give them a head start, make something possible for them,” she says.

In 2019, the ARVO Foundation’s newly created Ramesh and Brenda Tripathi Vision Research Fund will help early-career scientists build connections to advance their careers through programs at ARVO including the Women’s Leadership Development Program, the Global Mentorship Program and the Breakfast with the Experts event at the ARVO Annual Meeting.





# 2018 Individual donors

## **\$100,000 and above**

Susan M. Epstein, RN, JD

## **\$50,000 to \$74,999**

Ronnie Glaser

## **\$25,000 to \$49,999**

Rafal Farjo, PhD

## **\$15,000 to \$24,999**

John L. Keltner, MD and Nancy Keltner

Alice R. McPherson, MD

## **\$10,000 to \$14,999**

Nicolas G. Bazan, MD, PhD, FARVO and Haydee E. P. Bazan, PhD, FARVO

Paul S. Bernstein, MD, PhD, FARVO

Hans E. Grossniklaus, MBA, MD, FARVO

John R. Heckenlively, MD, FARVO

John A. Hoepner, MD

Shigeru Kinoshita, MD, PhD, FARVO

Alfred Sommer, MHS, MD

## **\$5,000 to \$9,999**

Melinda K. Duncan, PhD

J. Mark Petrash, PhD, FARVO and Kelly Cope Petrash

Frances J. Rucker, PhD, MCOptom, FAAO

Richard F. Spaide, MD, FARVO

Paul Sternberg, Jr., MD, FARVO and Gloria Sternberg

Joyce Tombran-Tink, PhD, FARVO and Colin J. Barnstable, Dphil, FARVO

Erik J. van Kuijk, MD, PhD and Virginia Brooke

## **\$2,500 to \$4,999**

Janet C. Blanks, PhD, FARVO and Robert Blanks

William J. Brunken, PhD and Dale D. Hunter, PhD, JD

Claude F. Burgoyne, MD, FARVO and Vicki Smith

Cheryl Mae Craft, PhD, FARVO

Patricia A. D'Amore, MBA, PhD, FARVO

Julia A. Haller, MD, FARVO and John D. Gottsch, MD, FARVO

Dimitrios Karamichos, PhD

Alan R. Morse, PhD

Stella M. Robertson, PhD and James D. Robertson

## **\$1,000 to \$2,499**

Jayakrishna Ambati, MD, FARVO

Jeffrey H. Boatright, PhD, FARVO and Claudia . Saari

Emily Y. Chew, MD, FARVO

Lancey B. Cowan, JD, CAE

Jennifer Doudna, PhD and Jamie Cate, PhD

Robert D. Fechtner, MD

Israel A. Goldberg, PhD

M. Elizabeth Hartnett, MD, FACS, FARVO and Bill Coles

Donald C. Hood, PhD, FARVO

David Huang, MD, PhD, FARVO

Piyush C. Kothary, PhD

Ingrid Kreissig

Paul P. Lee, JD, MD, FARVO

Maureen G Maguire, PhD, FARVO

Marmor Foundation/Michael F. Marmor, MD, FARVO

Maureen A. McCall, PhD and Ronald Gregg, PhD

Jennifer J. Kang-Mieler, PhD, FARVO and William F. Mieler, MD, FARVO

Joan W. Miller, MD, FARVO

Robert F. Miller, MD, FARVO

Paul J. O'Brien, PhD

Iris M. Rush, CAE

Joel S. Schuman, MD, FARVO and Carole Miner Schuman

Lawrence J. Singerman, MD, FACS

Gregory L. Skuta, MD

William Eric Sponsel, MD

Mary Ann Stepp, PhD, FARVO

Tim Stout, MD, PhD, MBA

Witold Karol Subczynski, PhD

Zhiqun Tan, MD, PhD

Cynthia A. Toth, MD, FARVO

Tor Paaske Utheim, MD, PhD

Thomas Yorio, PhD, FARVO and Elena Yorio

## **\$500 to \$999**

Raymond A. Applegate, OD, PhD, FARVO

John D. Ash, PhD

David G. Birch, PhD, FARVO and Eileen Birch, PhD

Ursula Anna Brueggemann

Thomas M. Brunner, BSEE, MBA

Jane W. Chan

# 2018 Individual donors

Claes H. Dohlman, MD, FARVO  
John E. Dowling, PhD, FARVO  
Steven J. Fliesler, PhD, FARVO  
and Madalyn Fliesler  
Michael W. Gaynon, MD and  
Susan HK Ryu, MD  
Mae O. Gordon, PhD  
Michael B. Gorin, MD, PhD,  
FARVO  
Irene Gottlob, MD, FARVO  
Leslie Hyman, PhD, FARVO  
Murray A. Johnstone, MD and  
Jeanie Johnstone  
Lyndell L. Lim, MBBS,  
DMedSci  
Peter D. Lukasiewicz, PhD  
Robert W. Massof, PhD,  
FARVO  
Ernest J. Millman, PhD and  
Ellen Pepperberg  
Ram H. Nagaraj, PhD, FARVO  
Louis R. Pasquale, MD, FARVO  
Stephen C. Pflugfelder, MD,  
FARVO  
Francesca Pignoni, PhD  
Mark H. B. Radford, MD, PhD  
Lena Rosenauer  
Susan Schneider, MD

Paul A. Sieving, MD, PhD,  
FARVO and Pamela C.  
Sieving, MA, MS  
Jolie Slaton  
Kenneth R. Sloan, PhD  
Justine R. Smith, FRANZCO,  
PhD, FARVO  
Lillemor M. B. Wachtmeister,  
MD, PhD  
Terri L. Young, MD, MBA,  
FARVO

## \$250 to \$499

Gary W. Abrams, MD, FARVO  
and Jane C. Werner, MD  
Muayyad R. Al-Ubaidi, PhD  
Sebastian G. Barreiro, MD  
Cagri G. Besirli, MD, PhD  
Terete Borrás, PhD, FARVO  
Eric C. Carlson, PhD  
Steve T. Charles, MD  
Yawen L. Chiang, PhD  
Thomas A. Ciulla, MD, MBA  
Sarah E. Coupland, MBBS,  
PhD, FARVO  
Darlene A. Dartt, PhD, FARVO  
Brad Fortune, OD, PhD and  
Ellen J. Lee, OD, PhD

Brenda L. Gallie, MD, FRCSC,  
FARVO  
Juan E. Gallo, MD, PhD  
Peter L. Gehlbach, MD, PhD  
Neeru Gupta, MD, PhD, MBA,  
FRCSC  
Huaiyu Hu  
David G. Hunter, MD, PhD,  
FARVO  
Soo-Wang Hyun  
Monica M. Jablonski, PhD,  
FARVO  
Kyuhyung Jo  
Amanda Johnson  
Stephen Judd  
Chan-sik Kim  
Miriam Kolko, MD, PhD  
Marlyn P. Langford, PhD,  
FARVO and Verona Langford  
Alexander V. Ljubimov, PhD,  
FARVO  
Goldis Malek, PhD  
Veronika Marek  
Randall May  
Maxine R. Miller, MS, MD  
Muna I. Naash, PhD, FARVO  
Joan M. O'Brien, MD

Daniel T. Organisciak, PhD,  
FARVO  
Wesley Randle  
T. Michael Redmond, PhD,  
FARVO  
Juergen Schmitt  
Janet R. Sparrow, PhD, FARVO  
Jason Spessard, MBA, CAE  
and Abby Spessard  
W. Daniel Stamer, PhD, FARVO  
Anand Swaroop, PhD, FARVO  
David Troilo, PhD, FARVO  
Imam Uddin, PhD  
Susan Vitale, PhD, MHS,  
FARVO  
Renate Voegler  
Kia M. Washington, MD  
Theodore G. Wensel, PhD,  
FARVO  
Mary Whitman, MD, PhD  
Janey L. Wiggs, MD, PhD,  
FARVO  
George A. Williams, MD,  
FARVO  
Samuel M. Wu, PhD  
Wenbo Zhang, PhD  
Xianjun Zhu, PhD



# 2018 Individual donors

## \$100 to \$249

Thomas Ach, MD  
Gregory M. Acland, BVSc  
Bela Anand-Apte, MD, PhD  
Jorge G. Arroyo, MPH, MD  
Elizabeth Austin  
Francine F. Behar-Cohen, MD, PhD  
Ashley Behrens, MD  
Audrey M. Bernstein, PhD  
Alan C. Bird, MD, FARVO  
Milam Brantley  
Peter Calvert  
Anita Chan, FRCS, FRCPath  
Dongfeng Chen  
Shiming Chen, PhD  
Yan Chen, PhD  
Gayle Claman, CAE  
John I. Clark, PhD, FARVO  
Claude L. Cowan, MD, MPH  
Kathryn S. Crawford, PhD  
Christine A. Curcio, PhD, FARVO  
Torrey V. A. Dekeyser  
C. Kathleen Dorey, PhD, FARVO  
Farideh Doroodgar  
Bruce A. Drum, PhD  
Robert N. Frank, MD, FARVO

Deepta Abhay Gbate, MD and Sachin Kedar  
Michael Henry Goldbaum, MD, MS, FARVO  
Adrienne Graves, PhD  
Florin Grigorian, MD  
Peter H. Heidenkummer, MD, PhD  
Peter G. Hovland, MD, PhD  
Zhenze J. Hu, PhD  
Jennifer J. Hunter, PhD  
Alessandro Iannaccone, MD, MS, FARVO  
Martine J. Jager, MD, PhD, FARVO  
Jeffrey Adam Jamison, PhD  
Julene Joy  
Jeffrey W. Kalenak, MD  
Iris S. Kassem, MD, PhD  
Kate E. Keller, PhD  
Vikas Khetan, DO, DNB, FMRF  
Ivana K. Kim, MD  
Elliot M. Kirstein, OD  
Norman J. Kleiman, PhD  
Mark J. Kupersmith, MD  
Kameran Lashkari, MD  
Marisa Lavine and Josh Lavine  
Christopher Seungkyu Lee, MD

Ji Eun E. Lee, MD, PhD  
Vincent H. L. Lee, PhD, FARVO  
Alfred S. Lewin, PhD, FARVO  
Michael Ludwig  
Arthur Makar, MA  
Sebastian Marschall  
Reyna Martinez-De Luna, PhD and Francisco J. Agosto  
Gillian J. McLellan, BVMS, PhD  
Keiko Momose, PhD  
Vincent M. Monnier, MD  
Sayoko Eileen Moroi, MD, PhD  
Taro Nanko  
Martha Neuringer, PhD  
Sana Nlazi  
T. Michael Nork, MD, MS, FARVO  
Mildred M. G. Olivier, MD  
Yvonne Ou, MD  
Mineo Ozaki, MD, PhD  
Jacob Pe'er, MD, FARVO  
Jan S. Peterson, MS, RAC, ACRP-CP  
De-Ann M. Pillers, MD, PhD  
Jason Porter, MS, PhD, FARVO and Jennifer Porter  
Matthew Potter  
Philip Rizzuto, MD  
Ignacio R. Rodriguez, PhD

Neeta Roy  
John R. Samples, MD  
Anne E. Schaffner, PhD  
Rhett M. Schiffman, MS, MD  
Dorota Skowronska-Krawczyk, PhD  
Enitan Sogbesan, MD, FRCSC  
Eduardo C. Solessio, PhD  
Michael E. Stern, PhD, FARVO  
Olof H. Sundin, PhD  
Mark W. Swanson, OD, MSPH  
Hirotaka Tanabe, MD, PhD  
Andrew W. Taylor, PhD, FARVO  
Shandiz Tehrani, MD, PhD  
Hiroko Terasaki, MD, PhD  
Robert Gabriel Tripon, MD  
Daniel Y. Tso, PhD  
Julio A. Urrets-Zavalía, MD, PhD  
Clemens Vass, MD  
Demetrios G. Vavvas, MD, PhD  
Alan L. Weiner, PhD  
Larry A. Wheeler, PhD  
Christine Frances Wildsoet, OD, PhD  
Barry S. Winkler, PhD, FARVO  
Lily L. Wong, PhD  
Linda M. Zangwill, PhD, FARVO

# 2018 Organizational donors

## \$100,000 and above

Knights Templar Eye Foundation

## \$75,000 to \$99,999

Alcon Labs, Inc  
Genentech, Inc

## \$50,000 to \$74,999

Alcon Foundation, Inc  
Heidelberg Engineering

## \$25,000 to \$49,999

F. Hoffmann - La Roche Ltd

## \$10,000 to \$24,999

Fondazione G B Bietti per Studio e Ricerca  
Harvard Department of Ophthalmology  
Lowy Medical Research Institute  
Ocugen  
PointGuard Partners  
Retina Research Foundation  
Trial Runners

## \$5,000 to \$9,999

Boston University School of Medicine, Department of Ophthalmology  
BrightFocus Foundation  
Byers Eye Institute at Stanford University  
Delcath Systems  
EyeCRO  
Joint Shantou International Eye Center of Shantou University and The Chinese University of Hong Kong  
NIHR Biomedical Research Centre  
The John A. Moran Eye Center  
University of Wisconsin - Madison

## \$2,500 to \$4,999

Casey Eye Institute  
James & Jean Culver Vision Discovery Institute  
Emory University Eye Center

Foster Ocular Immunology Society  
Henry Ford Health System  
Lions Eye Institute for Transplant and Research  
Medical College of Wisconsin  
New York Eye and Ear Infirmary of Mount Sinai  
Novartis  
NYU Langone Health  
Singapore Eye Research Institute  
University of California, San Francisco  
University of Michigan W.K. Kellogg Eye Center  
University of Minnesota  
Vanderbilt Eye Institute  
Washington University School of Medicine  
Wills Eye Hospital

## \$1,000 to \$2,499

#promotewomeninscience  
Apellis Pharmaceuticals  
The C. Stephen & Frances B. Foster Foundation  
Case Western Reserve University  
Children's Hospital Ophthalmology Foundation  
Illinois Eye and Ear Infirmary at University of Illinois  
Kowa Pharmaceutical Company  
Nassau University Medical Center  
Ocular Immunology and Uveitis Foundation  
Reader's Digest Partners for Sight Foundation  
University of North Texas Health Science Center  
Wilmer Eye Institute



2018 - 2019 ARVO Foundation Board of Governors

# 2018 – 2019 Board of Governors

## Chair

Paul Sternberg, Jr., MD, FARVO  
Vanderbilt Eye Institute

## Immediate Past Chair

J. Mark Petrash, PhD, FARVO  
University of Colorado

## Treasurer

David R. Williams, PhD, FARVO  
University of Rochester

## Vice Chair

Cheryl Mae Craft, PhD, FARVO  
University of Southern California

## Governors

Janet C. Blanks, PhD, FARVO  
Florida Atlantic University

Jeffrey H. Boatright, PhD, FARVO  
Emory University School of  
Medicine

William J. Brunken, PhD, FARVO  
Upstate Medical University

Eric C. Carlson, PhD  
Aerie Pharmaceuticals

Joan W. Miller, MD, FARVO  
Harvard Medical School,  
Massachusetts Eye and Ear,  
Massachusetts General Hospital

Mark H. B. Radford, MD, PhD  
Queensland Eye Institute

Stella M. Robertson, PhD  
Arrochar Consulting

Joel S. Schuman, MD, FARVO  
New York University Langone Eye  
Center

Erik van Kuijk, MD, PhD, FARVO  
University of Minnesota

## Ex Officio to the Governors

Justine Smith, FRANZCO, PhD,  
FARVO  
(Executive Vice President of ARVO)  
Flinders University

Gary W. Abrams, MD, FARVO  
(Governor Emeritus)  
Wayne State University, Kresge  
Eye Institute

Nicolas G. Bazan, MD, PhD, FARVO  
(Governor Emeritus)  
LSU Health Sciences Center

John E. Dowling, PhD, FARVO  
(Governor Emeritus)  
Harvard University

## Foundation Staff

Iris M. Rush, CAE  
Executive Director, ARVO and ARVO  
Foundation

Amanda Johnson  
Assistant Director, ARVO  
Foundation



# 2018 – 2019 Committees

## ARVO Foundation Awards Committee

The ARVO Foundation offers a number of awards to recognize the best and brightest in eye and vision research. The Foundation Awards Committee reviews applications and nominations for some ARVO Foundation awards.

J. Mark Petrash, PhD, FARVO – Chair  
Rajendra S. Apte, MD, PhD  
Colleen M. Cebulla, MD, PhD  
Juana Gallar, MD, PhD, FARVO  
Takeshi Iwata, PhD  
Philip J. Luthert, BSc, FRCP  
Shannath L. Merbs, MD, PhD  
Janos Nemeth, DSc, MD, PhD  
Lois E. H. Smith, MD, PhD, FARVO  
Terri L. Young, MD, MBA, FARVO  
Oliver Zeitz, MD

## Epstein Award Ad Hoc Committee

This specialized subcommittee of the ARVO Foundation Awards Committee has the responsibility for selecting the annual winner of the Dr. David L. Epstein Award.

Joel Schuman, MD, FARVO – Chair  
Paul Lee, MD, JD, FARVO  
Louis R. Pasquale, MD, FARVO  
J. Mark Petrash, PhD, FARVO  
Paul Sternberg, Jr., MD, FARVO  
Ernst R. Tamm, MD, FARVO

## WEAVR Leadership Committee

The Women in Eye and Vision Research (WEAVR) Leadership Committee provides strategic direction for WEAVR's fundraising activities that support women pursuing careers in the visual sciences.

Terri L. Young, MD, MBA, FARVO – Chair  
Sarah E. Coupland, MBBS, PhD, FARVO  
Kathryn S. Crawford, PhD  
Margaret M. DeAngelis, PhD  
Adriana Di Polo, PhD  
Kayla Gray  
Neena B. Haider, PhD  
M. Elizabeth Hartnett, MD, FARVO  
Amy Lo, PhD

# 2018 Financial report

## Assets

Cash and equivalents	\$344,675
Investments	\$3,109,417
Receivable, net	\$325,282
<b>Total assets</b>	<b>\$3,779,374</b>

## Liabilities and Net Assets

### Liabilities

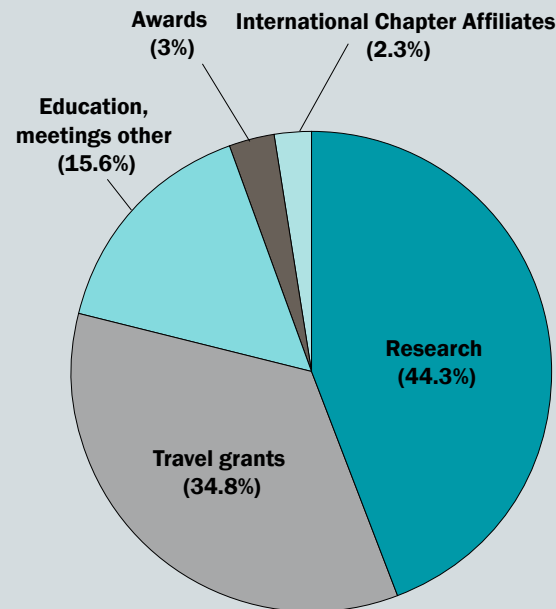
Accounts payable and accrued expenses	\$133,043
Deferred revenue	\$77,625
<b>Total liabilities</b>	<b>\$210,668</b>

### Net Assets

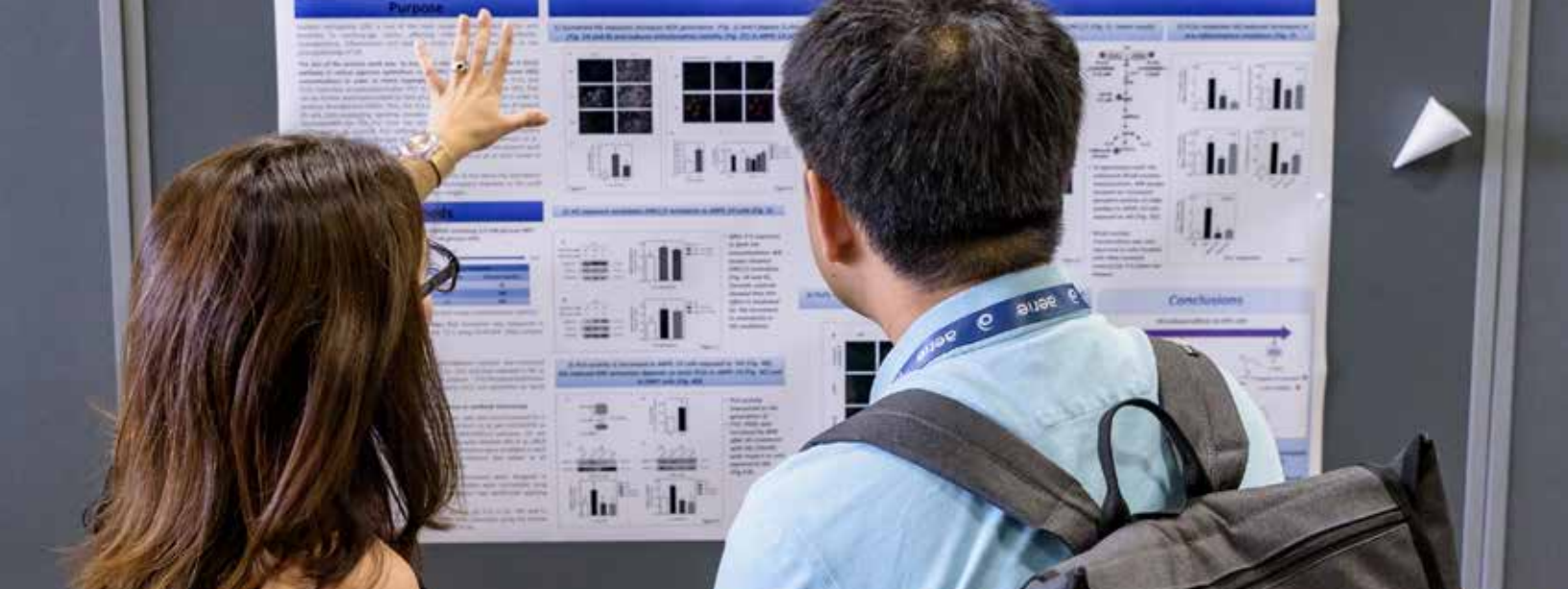
Without donor restrictions	\$1,913,271
With donor restrictions	\$1,655,435
<b>Total net assets</b>	<b>\$3,568,706</b>

**Total liabilities and net assets** **\$3,779,374**

## Program expenses



As of December 31, 2018



1801 Rockville Pike  
Suite 400  
Rockville, MD 20852  
+1.240.221.2950  
ARVOFoundation.org