

RETINA RESEARCH FOUNDATION NEWSLETTER

Foresight for Sight

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RRF Shines Bright: Wins FVF Luminary Award

The Future Vision Foundation (FVF) has awarded RRF their highest honor, the 2026 Luminary Award. The Luminary Award is bestowed to an individual or organization for extraordinary commitment to supporting vision research, clinical care, or patient advocacy.



From left: FVF Board Members Nicholas Ruthmann, MD, MPH and Allison Girvin; Laureate Awardees, Botond Roska, MD, PhD and Connie Cepko, PhD; RRF President, Arthur Willis, MD; Laureate Awardee, Daniel Ting, MD, PhD; and FVF CEO, Suber Huang, MD, MBA.

Future Vision Foundation's mission is to tell moving stories of vision research through powerful and inspiring films that reflect the collaboration of global experts and showcase breakthroughs in vision research. At the heart of every medical discovery is a story of persistence, innovation, and collaboration, and by bringing science to life on screen, FVF elevates the work of brilliant minds, drives progress, and sparks hope for millions affected by vision loss. RRF is most honored to receive this year's award, joining previously recognized philanthropic organizations in the vision research field, and three individual vision research awardees, Dr. Constance "Connie" Cepko, Harvard Medical School; Dr. Botond Roska, Institute of Molecular and Clinical Ophthalmology Basel, Switzerland; and Dr. Daniel Ting, Singapore National Eye Center.

Premiering at FVF's evening gala held at the iconic Cleveland Museum of Art, RRF's documentary film, "Into the Light," kicked off the award presentations.

With commentary from RRF Board Directors Dr. Art Willis, Dr. Petros Carvounis, Mac Jensen, and Advisory Board member, Susan Jensen, the eight-minute film illuminates RRF's efforts in funding retinal research to cure retinal diseases from its founding in 1969 by Dr. Alice R. McPherson through today.

Dr. Arthur Willis, RRF President attended the event in Cleveland to receive the Luminary Award on RRF's behalf.

As part of the evening's festivities, two RRF pilot study grant researchers affiliated with Case Western Reserve University were recognized for their pivotal research. Dr. Carlos Subauste who is researching new treatments for ocular toxoplasmosis, the leading cause of infectious retinitis worldwide, and Dr. Patricia Taylor, who is researching the role of a specific protein, BRD4 in retinal pathologies inherent to the development of diabetic retinopathy, the leading cause of blindness in middle-aged people worldwide.



Dr. Willis and RRF Pilot Study Researcher, Patricia Taylor, PhD.

Visit retinaresearchfnd.org to view the film and learn more about Dr. Subauste's and Dr. Taylor's research.



Dr. Willis and RRF Pilot Study Researcher, Carlos Subauste, MD and colleague, Jeffrey Klein, PhD.

2026 RRF Pilot Study Research Grants

RRF allocates nearly 60% of its annual research budget to pilot study grants, fostering early-stage research crucial for understanding retinal diseases. RRF partners with researchers at leading eye institutes and research universities, selecting highly original projects that promise significant advancements in vision treatments. Pilot studies are experimental, basic science projects designed to investigate previously unstudied or understudied lines of inquiry into the causes of retinal diseases with the goal of obtaining breakthrough understanding and advancing scientific knowledge. The ideal outcome is that these studies generate new scientific findings that warrant further investigation and lead to future ongoing projects. The ultimate goal for all RRF supported research is to develop new therapies for treating vision loss from retinal diseases and to cure these diseases.

RRF commits to funding pilot study projects for up to three years as progress is demonstrated. Twenty-seven continuing projects and six new projects have been funded in 2026. Since 2020, the annual number of pilot study grants awarded has doubled from 16 to 33, reflecting RRF's commitment to nurturing innovative research.

Vision scientists receiving RRF funding for the first time in 2026:



Ximena Corso Díaz, PhD, Stanford University, Department of Ophthalmology. *Project:* R-Loop Mediated Regulation of Gene Transcription in the Human Retina



Michael Landowski, PhD, Wayne State University, Department of Ophthalmology. *Project:* Visual, and Anatomical Sciences Targeting Lipids As A Treatment for RPE Degeneration



Brian Perkins, PhD, Cleveland Clinic, Department of Ophthalmic Research. *Project:* Effects of Oxidative Stress on Retinal Regeneration in a Zebrafish model of Age-Related Macular Degeneration



Rinki Ratnapriya, PhD, Baylor College of Medicine, Department of Ophthalmology. *Project:* Mapping the retinal epigenetic and regulatory landscape to decode genetic heterogeneity in IRDs



Carlos Subauste, MD, Case Western Reserve University, Departments of Medicine and Ophthalmology. *Project:* Manipulation of host cell signaling as novel treatment against ocular toxoplasmosis



Rebecca Voorhees, PhD, California Institute of Technology, Department of Biology and Biological Engineering. *Project:* Targeting rhodopsin biogenesis and quality control in heritable retinal blindness

Visit retinaresearchfnd.org to learn more about the innovative vision research these scientists are conducting.



RRF Managing Director News

Glen Eichelberger and Eric Holz join RRF Board of Managing Directors

Glen T. Eichelberger

Glen Eichelberger serves as Partner and Trust & Estates Practice Group Leader at Gray Reed, where he advises individuals and families on all aspects of trust, estate, and philanthropic planning and administration. His practice focuses on developing sophisticated strategies to minimize estate, gift, and generation-skipping transfer taxes, while designing and administering comprehensive estate planning structures tailored to each client's goals. Glen has extensive experience in charitable planning, and regularly counsels family foundations and nonprofit organizations on ongoing governance, compliance, and operational matters. He is known for providing thoughtful, practical guidance in navigating multigenerational wealth planning and the efficient transfer of assets. Glen is Board Certified in Estate Planning & Probate Law by the Texas Board of Legal Specialization, reflecting a high level of expertise and professionalism in his field. He is also a retired Certified Public Accountant, a background that enhances his ability to integrate tax, financial, and legal considerations into cohesive estate planning solutions for his clients.

Mr. Eichelberger has been married for 30 years to his wife, Haley, and they have one son, John, who is currently pursuing his JD at UH Law Center. Outside of his practice, Glen is an avid runner and enjoys spending time with his family. He has a deep appreciation for service oriented organizations and contributes his time and expertise to causes that create longterm impact. Glen's initial interest in RRF was sparked by his late law colleague, Joe Royce, who educated him on RRF's mission to fund innovative retinal research, support the next generation of vision scientists, and uphold strong, mission-driven leadership. Glen believes in building lasting relationships, both personally and professionally, and hopes to bring the same dedication and thoughtful stewardship to his work with RRF.

Eric R. Holz, MD

Eric Holz, MD is a board-certified vitreoretinal surgeon and senior partner at Retina and Vitreous of Texas, one of the nation's premier retinal specialty practices. He holds a faculty appointment at Baylor College of Medicine, where he has dedicated his career to advancing the next generation of eye care providers — training optometry residents, medical students, ophthalmology residents, and vitreoretinal fellows. For 13 years, Eric had the privilege of working alongside the legendary Dr. Alice McPherson at Baylor, an experience that profoundly shaped his commitment to retinal research and patient care excellence. Prior to joining the RRF Board of Managing Directors, Eric has served since 2023 as an RRF Scientific Advisor.

Beyond his clinical and academic work, Dr. Holz is a passionate advocate for innovation in retinal medicine. He and his wife of 37 years, Joyce Holz, MD — a minimally invasive gynecologic surgeon — share a lifelong dedication to medicine and patient care. They are the proud parents of Clayton, a technology entrepreneur based in Napa, California, and the delighted grandparents of Phoebe and Arthur. Eric brings decades of surgical expertise, teaching leadership, and deep institutional knowledge to the RRF Board.



Glen Eichelberger



Glen & Haley Eichelberger



Eric Holz, MD



Joyce & Eric Holz

Our Eyes, Companions Throughout Life

From the moment we open our eyes as newborns to the challenges of age-related visual decline in later years, eyesight presents a fascinating aspect of human development. Throughout our lives, changes to our vision are normal, but vision loss is not. By understanding the changes that occur from birth to adulthood and embracing best practices for eye health throughout our lives, we can continue to enjoy clear and vibrant vision, at all ages.



At birth, a baby's eyes are about 70-75% of their adult size. They continue to grow rapidly during the first few years of life. Vision is still in its early stages of development. Newborns can typically see objects only at close range, around eight to 12 inches away, just enough to focus on their caregivers' faces during feeding or bonding moments. Babies are born with a preference for human faces, which aids in early social interaction and bonding. By around six-months, most babies develop the ability to see more clearly and perceive depth, allowing them to reach for objects with better accuracy. This period is crucial for the development of hand-eye coordination and motor skills. Their color vision will develop, with red being the first color they perceive, followed by green and blue.

By age two, the eyes have grown close to their adult size, and visual abilities continue to advance rapidly. Children become more adept at distinguishing colors, shapes, and patterns. Activities such as reading books with vibrant illustrations or playing with puzzles can further stimulate their visual development and cognitive skills.

Protecting the eyes during early adolescence, particularly during sports activities, is crucial for maintaining long-term eye health and preventing potential vision problems. Wearing appropriate protective eyewear, such as goggles or helmets with visors, can significantly reduce the risk of eye injuries caused by flying objects, collisions, or impact trauma. Preventing eye injuries can mitigate the risk of long-term complications, such as retinal detachment or permanent vision loss.

Around age 20, our visual system is typically fully developed, with the ability to perceive a wide range of visual stimuli with clarity and precision. As adults, focusing on proper nutrition and exercise, not smoking, and protecting our eyes from harmful UV rays and digital screens become key to preserving eyesight.

Amazing Eye Fact ...

Fast Focus: Eye muscles are the fastest muscles in the human body, allowing quick focus shifts from one object to another. The human eye can focus on around 50 different objects every second and distinguish approximately 10 million different colors.

Tiny ciliary muscles work constantly, refocusing, and they can become fatigued. Eye muscles contract to bend the lens and bring near objects into focus. Over time, this sustained contraction can feel tiring. When you look at something far away, these muscles relax. To reduce digital eye strain, remember the 20-20-20 rule: for following every 20 minutes of screen time look away at an object to least 20 feet away for 20 seconds.

The human eye is capable of processing images at an incredible speed. The brain can interpret visual information in as little as 13 milliseconds, allowing real-time perception of the world around us.

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Amazing Eye Fact ...

Blinking Count: On average, a person blinks around 15 to 20 times per minute, adding up to around 28,000 times a day, and 5.2 million times a year.

You blink more when you are talking and less when you are concentrating on reading a book or working online. When we concentrate on screens, we blink less often, up to 50% less. Blinking is important for clearing debris from the eye, distributing tears for lubrication and improved vision clarity, and giving your brain a micro-break to reset visual processing.

Age-related visual decline is a natural part of the aging process, but we can take action to mitigate its impact and preserve vision for as long as possible. Regular eye exams are critical to monitor and manage any conditions effectively. A baseline eye exam with an ophthalmologist by the age of 40 is recommended for all adults, and expect to get dilated eye exams more often as you age. Seniors over the age of 65 should see an ophthalmologist every one to two years. Know your family's health history, and discuss it, ethnicity, age, and other factors with your ophthalmologist to identify eye disease risk factors and prevent serious disease. Routine eye exams can also be important for ensuring your overall health, because high blood pressure, high cholesterol, vitamin deficiencies, and several diseases, like diabetes, can be detected through the eye before any symptoms surface. These changes to overall health can add to the onset deterioration of visual acuity. An eye exam may even reveal a senior's risk for dementia.

Common Age-Related Vision Problems

Presbyopia (difficulty focusing on close objects like reading fine print). This inevitable part of aging makes it more difficult to focus on close up activities such as reading or sewing. Presbyopia is common after the age of 40, and reading glasses can help, as can some contact lenses and refractive surgeries. Prescription eye drop medicines taken daily can help improve reduced near vision from presbyopia.

Dry Eyes. Older adults tend to produce fewer tears, resulting in dry eyes. Dry eye is especially common among women following menopause. Your ophthalmologist will recommend the best dry eye treatment for you.

Blepharitis. Inflammation of the eyelids, causing redness and swelling. Blepharitis becomes more common due to hormonal change. Symptoms include red or swollen eyes, crust around the eyelashes, or soreness.

Amazing Eye Fact ...

Uniquely You: Eye color is determined by the level of melanin in your iris – brown eyes have more, while blue eyes have less.

The iris is so unique that no two people have the same iris pattern, making it a reliable tool for identification, in fact, eye (iris) recognition is widely considered more accurate and secure than fingerprinting. An iris scan maps roughly 240 to 256 unique key points, whereas a fingerprint uses about 12 to 40. This gives iris patterns vastly higher mathematical complexity and lower false-match rates.

Changes to the Consistency of the Vitreous. Beginning near age 40, the vitreous, a gel-like substance inside the eye globe becomes more liquid and over time, shrinks, which may impact the retina. This can cause spots or floaters in your vision, which are tiny clumps of gel. This is usually harmless, but if you suddenly start seeing many more new floaters, as this can be a sign of a serious condition, like a torn retina. When people see occasional flashes of light in their vision, these flashes happen when the vitreous rubs or pulls on retina. See your ophthalmologist if you notice a sudden increase in floaters or frequency of flashes.

Decreased Visual Acuity, Depth Perception, and Contrast Sensitivity. It may become more difficult to distinguish objects from similarly colored backgrounds. Loss of contrast sensitivity can be helped with low vision techniques such as using opposite colors. Older adults may notice that their eyes take longer to adjust and focus in the dark than they used to. Studies suggest that the eye's rod cells, which are responsible for low light vision,

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weaken with age. Aging adults with certain eye conditions may notice an increased sensitivity to glare. Adjusting the lighting around the house, using sunglasses or a wide-brimmed hat while outdoors, or using a matte screen filter on digital devices can help.

Cataracts. Clouding of the eye's lens, cataracts impacts nearly half of Americans over the age of 75. A cataract is when the lens inside of our eye become cloudy, due to oxidation making it difficult to see. Cataracts can be treated with surgery.

Glaucoma (liquid fluid buildup causing pressure damage to the optic nerve). People of all ages can be diagnosed with glaucoma, but the disease is most common among older adults. With no early symptoms, regular eye exams are the best way to protect yourself. The disease damages the optic nerve and can lead to blindness if not treated early.

Age-related macular degeneration (AMD) (loss of central vision). A common eye disease, usually found in adults over the age of 50. Patients may not notice symptoms during early stages of the disease, but central vision will eventually decline. Treatment varies depending on the type of AMD.

Diabetic Eye Disease. Diabetic retinopathy (DR) is another leading cause of vision loss among adults. Very high levels of blood sugar can damage the blood vessels in the retina and cause vision loss. There are various treatment options for diabetic retinopathy.

Eye Cancer. Although ocular melanoma is very rare, it is the most common eye cancer in adults. Early symptoms of ocular melanoma often go unnoticed, which is why routine eye exams are critical in catching this cancer early.

Sources: American Academy of Ophthalmology (AAO): aao.org; National Eye Institute (NEI/NIH): nei.nih.gov; Mayo Clinic: mayoclinic.org; Centers for Disease Control and Prevention (CDC): cdc.gov/visionhealth

Summertime Fare for Eye Health



With the help of proper nutrition, our eyes will be less vulnerable to age-related problems like macular degeneration and dry eye. There are many studies that demonstrate more fruits and vegetables may help protect against age-related eye problems. Conversely, some foods we associate with summertime may usher in these age-related vision concerns.

Research has shown that nutrients — antioxidants, fatty acids, vitamin A, vitamins, and zinc, play a key role in keeping our vision sharp and our eyes comfortable. Beta-carotene from fruits and vegetables is converted in the body to vitamin A, essential for eye health. Beta-carotene rich foods include just about all orange and yellow fruits and vegetables as well as dark, leafy greens. Many fruits are hydrating, and may improve acute dehydration vision problems. Incorporating flaxseeds or chia seeds, two of the very best sources of Omega 3 fatty acids, will help circulation and fluid retention in the body, preventing dry eye and normalizing eye pressure to reduce the risk of glaucoma.

During the summer months, add smoothies into your daily routine to bring essential vitamins and Omega 3 fatty acids into your diet. By blending leafy greens, colorful fruits, seeds, and healthy fats into a once-a-day smoothie, you can support your vision and eye health in a delicious and practical way.

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Smoothie Ingredients: Pick and choose from these eye healthy options!

Beta-carotene Vitamin A	Vitamin C	Vitamin E	Lutein Zeaxanthin Zinc	Omega-3 Fatty Acids	Antioxidants Anti-inflammatory Antibacterial	Probiotics Protein	Hydration
1 cup	1-2 cups	1 cup	1 cup	1 tablespoon	½ teaspoon	1 cup	splash
Mango (Vitamin E)	Green Apple	Peach (Vitamin C)	Kale	Avocado (Lutein/Vitamin C)	Honey	Greek yogurt	Coconut water
Kiwi (Vitamin E)	Citrus – orange, lemon, lime	Red Sweet Pepper	Spinach (Iron, Vitamins C & E, Potassium/ Magnesium)	Flax seeds/oil Flax Milk	Vanilla Extract	Kefir	Water Ice cubes
Watermelon (Vitamin C)	Blueberries Blackberries Cranberries Raspberries Strawberries (Vitamin E)	Almond Milk	Basil	Chia seeds	Pomegranate seeds or juice		Red Grapes
Apricot (Vitamin C)							
Carrot	Pineapple		Cacao		Cinnamon		
Cucumber (Vitamin K & C and folate)	Banana (Potassium)		Pumpkin Seeds (Magnesium & Antioxidants)		Ginger (Potassium & Magnesium)		

Directions: combine selected ingredients in a blender and blend for one minute.

Macular Defense Smoothie (*macular degeneration support ingredients highlighted in green in the table*). To protect your central vision, focus on the nutrients proven to slow macular degeneration, pick ingredients with lutein, zeaxanthin, vitamin C, vitamin E, and zinc.

Tear Support Smoothie (*dry eye relief ingredients highlighted in orange*). Dry eyes are uncomfortable — burning, redness, and irritation are all too common. Nutrients like Omega-3s, Vitamin A and Vitamin C, can increase hydration and support a healthier tear film.

Summer Foods to Avoid: Summertime gatherings often include quick and easy foods, like sandwiches, burgers or hot dogs. But when it comes to your eye health, these are not good options. Overall, studies indicate there is a direct relationship between consuming red meat, processed meats, and fast foods with development of early macular degeneration. These foods are considered risk factors - depending on how much you eat, and they typically also contain excess sugar and salt among other detrimental ingredients that are generally not good for you.

Red meats include: beef, lamb, pork, and venison. Common processed meats include: bacon, cold cuts, hot dogs, salami, and ham. While it is known that generally fast food is unhealthy, when it comes to your eye health, it is the trans-fats used for frying that are most detrimental. A 2020 study identified a clear association between trans-fats and AMD. Those with a higher intake of trans-fats were more than twice as likely to be affected by AMD. So this summer, make an easy choice to protect you eye sight, and opt for better alternatives.

Sources: vibranthappyhealthy.com; 1md.org; vrcny.com; healthline.com

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For more information on ways to give, call: 713-797-1925. Thank you for helping us fund innovative research to discover cures for the retinal diseases that damage and destroy vision!

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