SEEING FORWARD

THE CASE FOR RESTORING VISION

for those with Usher syndrome 1F

USHER 1F COLLABORATIVE

OUR VISION — IS THEIR VISION

IN 3 TO 5 YEARS IT WILL BE POSSIBLE FOR...

Zachary to continue his passion in the fine and performing arts

Harry to get his license and drive a car—currently not a strong possibility

Tzila to continue to see the beautiful smiles of her two children

Dorie to fulfill her quest to see the world by traveling independently

Brothers Jax and Chase to continue modeling their father as a master carpenter

Andi to continue her dream of becoming a world-renowned scientist

EACH OF THESE SEVEN BEAUTIFUL PEOPLE SUFFERS FROM A RARE, CONGENITAL DISEASE, USHER SYNDROME 1F.

Due to this condition, all seven were born deaf, and while coping with their hearing loss, they are also tragically losing their sight. The mission of Usher 1F Collaborative is to rapidly fund medical research to find an effective treatment to rescue vision for Zachary, Dorie, Harry, Tzila, Jax, Chase, Andi and all of those who suffer from this devastating syndrome.

OUR JOURNEY — TO DATE

ADDRESSING THE PROBLEM THROUGH INITIATIVE AND CREATION

The Root family

Usher syndrome 1F is a genetic disorder resulting in deafness at birth and then the onset of retinitis pigmentosa at or around puberty, which begins with loss of peripheral vision then progresses to complete blindness over time. Hearing loss for those with Usher 1F can be addressed with prosthetic cochlear implants, usually done in early childhood. However, there is no current treatment for the vision loss.

In order to change this, Melissa Chaikof and her husband Dr. Elliot Chaikof founded the Usher 1F Collaborative in 2013 as a 501(C)3 public trust with laser focus on galvanizing and funding world-renowned scientists to find a cure for this syndrome. They were propelled by a vision to ensure that no child faces an ever-darkening world, including their two daughters Rachel and Jessica. They were joined by Rachel and Jared Root whose son Zachary has the syndrome. The team quickly built a governing board and an international, scientific advisory board. (See listing on page 8). As both a medical doctor and an accomplished research scientist, Elliot Chaikof was well positioned to oversee the research roadmap, while Melissa, Jared and Rachel created a community of affected families across the globe including the United States, Canada, Australia, Brazil, Israel, Germany, Poland, and Sweden. They also raised funds to partner with major research labs.

The Chaikof family

IN TEN YEARS, THE COLLABORATIVE HAS MADE REMARKABLE PROGRESS,
developing multiple avenues toward a cure including: gene therapies, small-molecule drugs, and stem cell treatments.

REMARKABLE ACCOMPLISHMENTS TOWARD A SOLUTION—IN RECORD TIME

MORE SPECIFICALLY, THE TEAM:

- Established the first ever research for Usher syndrome type 1F—investing in an initial research lab at the University of Oregon Institute of Neuroscience. This led to the creation of a zebrafish model, a critical tool to test potential treatments.
- Next, the Collaborative invested in creation of a mouse model at a second lab at the University of Maryland.
- In 2017, they hosted the first scientific conference in Boston attracting David Corey, PhD, Bertarelli Professor of Translational Medical Science in the Blavatnik Institute at Harvard Medical School. Corey, studying the role of the Usher 1F gene in the auditory system, was quickly motivated by the race against time to save vision for families of the Collaborative, and by 2023 created three gene therapies, one of which is an Usher 1F mini—gene showing great promise in the Collaborative's mouse model and vision in the Collaborative's zebrafish model.
- The Collaborative also invested in other academic research teams in all totaling nine labs with $14 million in investments. This led to the following treatments now being studied for development:
  - Four drug therapies
  - One stem cell therapy
  - Seven gene therapies, two of which have gained interest from major pharmaceutical companies
- By initially casting a wide net, the team at the Collaborative is now able to focus on those therapies most likely to successfully transition from the lab to the clinic.
- While work was accelerated in these labs, the Collaborative partnered with Foundation Fighting Blindness to launch an international natural history study at ten clinical sites. This study will characterize the rate of progressive vision loss that will provide data needed for clinical trials.

"A recent $1.2 million grant from Foundation Fighting Blindness is a great example of how funds from individual donors to the Collaborative can be effectively leveraged to support pilot projects that generate larger funding from foundations and the NIH."

– David Corey, PhD,
Bertarelli Professor of Translational Medical Science in the Blavatnik Institute at Harvard Medical School—pictured above with his team

WHAT SETS US APART

I'VE BEEN INVOLVED WITH BIOTECHNOLOGY COMPANIES FOR 30 YEARS, originally as a bench scientist, and later as a senior executive. I also spent 12 years as a healthcare investor working with both private, venture capital backed companies and public corporations. One of my priorities was to work across the entire organization to determine bottlenecks in moving from discovery of a disease-causing drug target to creation of a therapy for that illness. The most important step in this process is having an animal model that faithfully recapitulates the phenotype of the disease. Such model systems often take many years to develop.

One of the truly remarkable accomplishments of the Usher 1F Collaborative has been to fund academic researchers that have in just a few years developed not just one of these in vivo model systems, but two different model systems. This is a huge step in the development of a therapy or possibly a cure for this unmet medical need.

It is nothing short of remarkable that the Usher 1F Collaborative has been able to make this level of progress and a testament to the team's ability to identify the most important things to be done and then to fund those projects with a complete focus on translating scientific discoveries to preclinical and eventually clinical development.

There are thousands of patient advocacy groups worldwide. Yet only some have been successful in helping drugs get developed. Most do not have a well-respected internationally known physician-scientist directly involved or drug developers on their boards. At Usher 1F Collaborative, Elliot Chaikof, MD, PhD, brings a unique understanding of research and clinical pitfalls, an ability to negotiate from a position of knowledge and a great network of other experienced professionals willing to help....And with two affected daughters, it is very personal for the Chaikof family, fueling their relentless commitment to get to the end goal—a new therapy/cure.

FRANK GENTILE, PHD,
COO, Casma Therapeutics,
Venture Partner, Third Rock Ventures
Usher 1F Collaborative board member

INVESTING IN

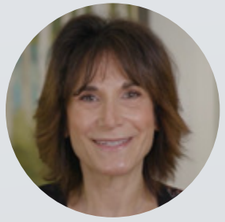
SEEING FORWARD IS A 3-YEAR MAJOR-GIFT FUNDRAISING INITIATIVE TO MEET OUR NEXT BOLD GOALS ON A RAPID PATH TOWARD A CURE

PRIORITY AREA	DOLLARS	WHAT THIS WILL DO
MINI-GENE VISION RESCUE COREY LABORATORY HARVARD MEDICAL SCHOOL	**1,500,000**	Allow us to take the mini-gene to clinical trial in several years. The mini-gene replaces the defective gene in order to halt further retinal degeneration and restore some vision already lost.
TARGETED DRUG SCREEN WESTERFIELD LAB UNIVERSITY OF OREGON INSTITUTE OF NEUROSCIENCE	**600,000**	Targeted drug screening allows us to repurpose existing FDA-approved drugs and to test them for efficacy for their ability to slow or even halt retinal degeneration. This is the fastest path to the clinic since these drugs have an already known safety profile.
REVOLUTIONARY GENE THERAPY APPROACH PFAFF LAB THE SALK INSTITUTE LA JOLLA, CALIFORNIA	**915,000**	Gene Therapy involves replacing the defective gene with a corrected copy delivered via a viral vector. Viral vectors are created from modified viruses to deliver the gene to cells.
TOTAL	**3,015,000**	

OUR NEXT CHAPTER

LEADERSHIP

THE COLLABORATIVE BOARD LEADING OUR NEXT CHAPTER HAS THE EXACT RIGHT MIX OF STAKE, TALENT, KNOWLEDGE AND RESOURCES TO GET THIS JOB DONE



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Scientific Oversight Team

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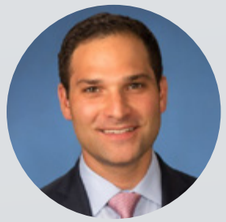
Secretary and Trustee, Chair, Development Committee

Joshua Cohen
Trustee



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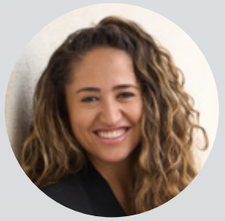

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GIFTS AND INVESTMENTS — TO "INSIGHT" OTHERS

NO GIFT IS TOO SMALL OR TOO LARGE
in our effort to achieve these goals, and we invite everyone to participate in our quest to SEE FORWARD.

Gifts from our families, in alignment with personal ability, will motivate outside donors to lean into the science which is at an important pivot point now more than ever—so that we do not lose critical momentum. A positive ripple effect in giving will create a tipping point toward success.

All investors are, therefore, sought to help us move closer to a cure, to help all individuals who live with Usher 1F in the race again against time – and as their world grows dimmer with each passing year.

Each of you has the power to prevent their world from growing dimmer and provide love to change darkness to light.

Help Diego Forte to continue to see the breathtaking sights in Ottawa where he lives. Usher 1F Collaborative Canada was incorporated in 2023

PHILANTHROPIC INVESTORS WILL HELP MOVE SCIENCE FROM LAB TO PATIENTS MORE RAPIDLY

There is an exciting window of opportunity for inspirational donors to help achieve a breakthrough for those suffering from Usher smyndrome 1F. As science is reaching a critical tipping point, such donors will help the Collaborative to increase speed as well as to derisk the development process for new drugs and therapies as shown in the diagram on the right.

The Collaborative is currently at step #3. Seeing Forward is a comprehensive initiative to advance rapidly toward step # 6—curative therapies.

USHER 1F COLLABORATIVE

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"TIME IS NOT ON OUR SIDE FOR MY SISTER DORIE AND OTHERS. THEREFORE, MY WIFE ELIZABETH AND I DECIDED TO INCREASE OUR OWN DONATIONS TO MAXIMIZE FUNDING FOR RESEARCHERS WHO ARE SO CLOSE TO TREATMENTS AND A CURE. IT'S A RACE AGAINST TIME, AND WE NEED EVERYONE'S MAXIMUM SUPPORT"

DAVID SHAPIRO