Roger F. Steinert, MD
Dec. 8, 1950–June 6, 2017

Roger F. Steinert, MD, died peacefully at his home surrounded by family and friends on June 6, after more than two years battling glioblastoma. He was 66 years old. During his fight with cancer, Dr. Steinert remained professionally active as the Irving H. Leopold Professor and Chair, Department of Ophthalmology, professor of biomedical engineering in the UC Irvine School of Medicine and director of the Gavin Herbert Eye Institute.

Steinert penned his last Director’s Letter in late May, sharing with donors and supporters the latest about Gavin Herbert Eye Institute.

As you may recall, a decade ago at this time, we were immersed in the early work to build a world-class eye health center for Orange County.
The proposed center had just received its first major gift — from Ninetta and Gavin Herbert and Gavin’s mother, Josephine Herbert Gleis. Knowing the Orange County community, I was reasonably confident that business and philanthropic leaders would rally to support this bold endeavor. What was less certain was what our world would look like once the building was complete. Well, now we know. The Gavin Herbert Eye Institute shines brightly!

I continue to be heartened by the community’s enduring commitment to vision health — as evidenced by the individual and collective impacts in the last year alone. Consider these highlights:

- Henry Klassen, MD, PhD, achieved a milestone in his long journey to defeat retinitis pigmentosa. The U.S. Food and Drug Administration granted regenerative medicine advanced therapy designation (RMAT). For jCell, the RP therapy Klassen developed at Gavin Herbert Eye Institute, and is continuing to test at jCyte, a company he co-founded.

- More than 4,725 preschool children in Orange County opened their eyes to a much clearer world, thanks to free screenings, eye exams, and glasses from the Eye Mobile for Children.

- Our expertise extended around the globe, with Sam Garg, MD, traveling to India to train physicians on the DSEK technique for corneal transplant, while Sameh Mosaed, MD, and Mitul C. Mehta, MD, saved the sight of more than 30 people in Peru with cataract surgery.

In the race to eradicate preventable blindness, momentum is clearly on the side of Gavin Herbert Eye Institute. It has been a privilege to be a part of this great institute, where loved ones, friends and neighbors receive sight-saving vision care, and scientific and industry collaborations are leading to new and better ways to preserve sight. Thank you for trusting me and the very talented GHEI team to achieve ambitious goals on your behalf. We are honored and humbled by your unfailing support.

To support the Gavin Herbert Eye Institute — Steinert Memorial Fund, visit ucirvinehealth.org/steinertmemorial

To support the Chao Family Comprehensive Cancer Center — Steinert Glioblastoma Research Fund, visit ucirvinehealth.org/glioblastomaresearch

Roger Steinert, MD
Director, Gavin Herbert Eye Institute
Chair, Department of Ophthalmology
2004-2017
Selective residency program brings top recruits to GHEI

The most competitive universities accept about 5 percent of applicants, or one in 20. At UC Irvine Health Gavin Herbert Eye Institute, only three candidates are selected each year out of 350 to 450 candidates, said Dr. Jeremiah Tao, director of the residency program and associate clinical professor of ophthalmology at the UC Irvine School of Medicine.

The small number of residents — a total of nine doctors for the three-year program — allows the institute to lavish training and attention on each one, Tao said. The resident-faculty ratio is 1 to 2 — two professors for each resident.

But the GHEI residency program differs from many others in a more fundamental way: it places a strong emphasis on groundbreaking research in addition to the training of residents in clinical and surgical practice. In fact, the program requires residents to engage in research, both testing out scientific theories in the laboratory and working on ways to improve medical practice for better safety and patient satisfaction.

“We have a major research emphasis and a commitment to finding new cures and technologies,” Tao said. “We’re producing the next generation of triple-threat surgeons who are not only excellent clinicians, but also doctors who are committed to research and who have an eye on becoming mentors and leaders in their own right.”

Many of the residents will remain in California or elsewhere on the West Coast afterward, Tao said, providing their finely honed skills to patients and engaging in cutting-edge research to save people’s vision.

Faculty members

Cataracts, Cornea, External Disease and Refractive Surgery
- Marjan Farid, MD
  - Vice Chair, Ophthalmic Faculty
- Sumit (Sam) Garg, MD
  - Vice Chair, Clinical Ophthalmology
- Sanjay Kedhar, MD
- Matthew Wade, MD

Cataracts and Glaucoma
- Sameh Mosaed, MD
- Anand Bhatt, MD

Comprehensive Ophthalmology
- Kavita K. Rao, MD

Neuro-Ophthalmology
- Chantal Boisvert, MD
- R. Wade Crow, MD

Oculoplastics
- Jeremiah Tao, MD

Ophthalmic Pathology
- Donald S. Minckler, MD

Optometry
- Jennifer Che, OD
- Kathleen Dang, OD
- Timothy Scott Liegler, OD
- Kailey Marshall, OD

Pediatric Ophthalmology
- Chantal Boisvert, MD
- Robert W. Lingua, MD
- Jennifer Simpson, MD

Research
- Andrew Browne, MD, PhD
- Lbachir BenMohamed, PhD
- James V. Jester, PhD
- Tibor Juhasz, PhD
- M. Cristina Kenney, MD, PhD
- Henry Klassen, MD, PhD
- Anthony B. Nesburn, MD
- Eric Pearlman, PhD
- Jing Yang, MD, PhD

Retina and Vitreous
- Andrew Browne, MD, PhD
- Baruch Kuppermann, MD, PhD
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- Stephanie Lu, MD
- Mitul Mehta, MD

Uveitis
- Sanjay Kedhar, MD
New treatment brings hope to keratoconus patients

For a while, people with the condition called keratoconus can get along by using glasses or contact lenses, though they continually must ramp up to stronger and stronger prescriptions. But in many cases, the weakness in the structure of the cornea will cause it to thin and bulge so much, that it becomes shaped more like a cone than a dome, and a corneal transplant is required.

Now, doctors at UC Irvine Health Gavin Herbert Eye Institute have begun offering a newly approved, nonsurgical treatment called corneal crosslinking that has been shown in European studies to be 90-95 percent effective. Approved in 2016 by the U.S. Food and Drug Administration, crosslinking arrests the progression of keratoconus so that patients can avoid corneal transplant altogether, said Dr. Sam Garg, medical director at GHEI.

Andrew Ochoa, 25, began to experience symptoms right before he started college. He started with glasses, and then had to move on to hard contacts. He described the condition as “like you’re looking through an unfocused microscope.”

“I like to read and if the illness gets bad enough, you can’t read, you can’t write,” Ochoa said.

The crosslinking procedure involves temporarily removing the epithelium, the protective covering of the cornea, followed by saturating the cornea with riboflavin and then exposing it to UVA light. Though the precise mechanism by which it works isn’t fully understood, this increases the number of “crosslinks” giving the cornea its structure, Garg said.

Keratoconus usually shows up in people in their late teens and early 20s, Garg said, with nearsightedness and “a lot of astigmatism.” Overall, it occurs in about one in 2,000 people, but is more common in people with a family history and those with certain kinds of allergies.

As the patient matures, and with exposure to sun, the cornea will harden and its structure will be more stable, he said. The key is to catch it early and treat it so that the shape of the cornea is normal enough to require only glasses or contacts by the time it matures. Both eyes are affected, Garg said, with one usually worse than the other.

Ochoa underwent the procedure in May and June, for each of his eyes, and said he has already noticed improvements in his eyesight. Ochoa graduated from UC Irvine in March with a degree in literature, and plans to teach English in Japan.

“I’m really glad I did it because now I don’t have to worry about it – forever,” he said.

GHEI physicians who perform corneal crosslinking:

Marjan Farid, MD
Sumit (Sam) Garg, MD
Sanjay Kedhar, MD
Matthew Wade, MD
$6M grant spurs work to eliminate ocular herpes

Lbachir BenMohamed, PhD, is fighting an eye disease that few people realize exists.

“When I tell people about my work developing a vaccine against herpes, they immediately think genital herpes,” said BenMohamed, immunologist and vaccinology expert at the UC Irvine Health Gavin Herbert Eye Institute and professor of immunology at UC Irvine School of Medicine.

But BenMohamed and his research group are after a more insidious manifestation of the herpes simplex type 1 virus: ocular herpes, which attacks the eye. When an attack is caught early, the blisters and lesions can be treated with forms of antiviral drugs, such as acyclovir, the same medication people use to fight their cold sores. Left untreated, it can scar the cornea, requiring a corneal transplant.

BenMohamed’s aim, working with a $6 million grant from the National Eye Institute, is to keep ocular herpes from occurring in the first place. The vaccine won’t eliminate the virus, which lurks dormant in infected people and then can occasionally break out during exposure to stress or after overexposure to sun. Instead, the idea is to keep the virus contained to its lurking zone, the trigeminal ganglia located under the brain. Side benefit: The vaccine also could prevent future cold sores and perhaps some genital herpes as well.

His team’s research recently reached a milestone: In July, their article on clinical trials in mice, showing the vaccine to be nearly 100 percent effective, was published in the Journal of Immunology. The next step will be to seek permission from the U.S. Food and Drug Administration for a Phase I safety trial on humans.

Certain white blood cells appear to block the virus from causing breakouts, he said. People who are afflicted by ocular herpes appear to have too few of these cells, or the cells are less active — or perhaps both.

The vaccine is expected to boost the number or function of those white blood cells in afflicted people, but it alone won’t be enough. Another obstacle confronting researchers is the virus’ uncanny ability to evade the immune system. The virus can outsmart the human body and can even attack and weaken the white blood cells intended to fight it at certain “immune checkpoints.”

A second arm of the group’s research involves finding a way to block that cell-weakening gene within the virus with monoclonal antibodies. “We are trying to find those immune checkpoints. Once that’s done, those blocking antibodies will be combined with the vaccine,” BenMohamed said.
Steve Kirby’s vision had been growing blurrier for years, but his eye doctor kept telling him there was no problem. Finally, it reached the point where, when driving at night, if he saw a car ahead of him in the other lane, his double vision would make it look as though there was an identical car in his own lane.

Kirby was eventually referred to UC Irvine Health Gavin Herbert Eye Institute, where neuro-ophthalmologist Dr. Robert W. Crow diagnosed a weakened sixth nerve affecting the muscle in his left eye, the one that enables the eye to turn toward the outer corner. The problem: weakened blood flow to the nerve. As a result, Kirby’s eye had turned inward, so slightly that the difference was imperceptible to the casual observer, but enough to wreak havoc with his vision.

Dr. Chantal Boisvert would perform the surgery to fix the problem, but first, she said, Kirby was tracked for several months. Often, this condition, which can be caused by a variety of factors, reverses itself. That didn’t happen for Kirby.

“We had to bring the eye back to the normal position,” Boisvert said. The muscle connects to the eyeball; all that was required, Boisvert said, was a small cut on the eyeball, pulling out the weakened muscle. “We cut a little piece of muscle and moved it forward on the eyeball. The muscle is stronger as a result.”

Many people with the same eye problem as Kirby go years without realizing there is such a simple fix, she said. “It basically takes 10 minutes. It’s very, very easy, safe and straightforward. What I did for him was not much but it changed his life.”

Kirby agrees completely. “It took me longer to get dressed and undressed than to get the surgery,” he said. “My vision was perfect from the very first moment after I woke up and opened my eyes.”

Kirby, a Dove Canyon resident who owns an auto-parts firm, is thrilled, not just with the results, but with the attention, precision and care shown by his doctors. That impressed him so much that he made a donation to the institute. “The atmosphere, just the whole vibe about the place,” he said. “Dr. Boisvert, this is her passion. These are some very special people in the field.”
NKCF/GHEI merger shines light on keratoconus

A natural match was made in 2016, when the National Keratoconus Foundation (NKCF) became a program of UC Irvine Health Gavin Herbert Eye Institute: NKCF was a nonprofit devoted to helping people with keratoconus that found itself with access to the resources of a leading ophthalmic research and treatment center.

Since the foundation merged with GHEI, program director Mary Prudden has created World Keratoconus Day on Nov. 10 for doctors and patients to spread the word about the eye condition. She also organized a film contest, with patients submitting three-minute videos about their experiences. The winner was a graduate student who had never been diagnosed and found herself struggling in classes because of an ailment she wasn’t even aware she had. To view the winning films, visit www.nkcf.org/nkcf-film-festival-winners

In February, Prudden put together a professional roundtable of GHEI doctors along with ophthalmologists and optometrists from around the country. They discussed corneal crosslinking, a newly approved treatment for keratoconus (see page 4), sharing information and opinions about which patients were the best candidates for the procedure.

Klassen named to 2016 Power List

Henry Klassen, MD, PhD, was named to the Ophthalmologist 2016 Power List. The magazine covers topical news and pragmatic information for practicing ophthalmologists. The Power List names the Top 100 most influential people in the world of ophthalmology. Klassen is an associate professor and director of the Stem Cell and Retinal Regeneration Program in the Department of Ophthalmology. The magazine highlighted Klassen’s work in the field of stem cell research, and his recent designation from the U.S. Food and Drug Administration allowing his developmental retinitis pigmentosa treatment to undergo accelerated approval to get to patients faster.

Thank you to our donors

Gifts of $25,000 and above received since July 1, 2015, to the general fund of the Gavin Herbert Eye Institute:

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EVENTS

All events are at the Gavin Herbert Eye Institute in the Cavanaugh Room on the third floor.
To register and attend, call 949-824-7243 or email ghei@health.uci.edu

Community Lecture Series

Plastics
Monday, Sept. 18, 7 p.m.
Sags and Bags: Current Treatments in Oculofacial Surgery
Jeremiah Tao, MD

Pediatrics
Monday, Nov. 6, 3 p.m.
Monday, Nov. 6, 7 p.m.
Steering Your Child to Better Vision: A Guide for Parents
Kailey Marshall, OD

LASIK Surgery Seminars
Free, informational seminar to learn about LASIK surgery and whether you are a candidate.
Thursday, Sept. 21, 2017
Thursday, Nov. 16, 2017

Make an appointment
Gavin Herbert Eye Institute
850 Health Sciences Road, Irvine, CA 92697
Appointments: 949-824-2020
Optical Shop: 949-824-7690

UC Irvine Medical Center
101 The City Drive South, Pavilion 2, Orange, CA 92868
Appointments: 714-456-7183

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