

DISCOVERY

EYE FOUNDATION

~ FOUNDED IN 1970 ~

SUPPORTING WORLDWIDE EDUCATIONAL PROGRAMS AND RESEARCH LABORATORIES AT UC IRVINE AND CEDARS-SINAI MEDICAL CENTER

THANKSGIVING 2005

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The Discovery Eye Foundation newsletter is currently published twice annually. It serves to bring you the latest information about our eye research, patient outreach programs, organizational achievements, and profiles of our supporters, patients and friends of DEF.

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UCI EYE INSTITUTE

The development and construction of an internationally renowned eye institute was one of the most compelling reasons for the Discovery Eye Foundation (DEF) researchers to move their base of operation from Cedars-Sinai Medical Center to the University of California, Irvine (UCI) medical center. The proposed eye institute would afford scientists more space and improved facilities, and better opportunities for collaboration with outstanding researchers in other university departments.

While DEF typically supports corneal and retinal eye research, the organization has a vested interest in seeing the eye institute break-ground in 2007. Usually DEF does not support building construction, but in this case, both DEF medical director, Anthony Nesburn, M.D., F.A.C.S. and board chairman, Jack Schoellerman are advisors to this project and serve on the capital campaign steering committee.



State-of-the-art eye institute at University of California, Irvine

THE OC ADVANTAGE

Los Angeles benefits from two high-profile eye research facilities: the University of Southern California's Doheny Eye Institute and the University of California, Los Angeles, Jules Stein Eye Institute, but

currently there is nothing similar to serve Orange County. The proposed UCI eye institute location couldn't be more strategically placed since many are calling Orange County the "Silicon Valley of ophthalmology." As it turns out, there are more ophthalmic pharmaceutical and device companies located in Orange County than anywhere else in the world, further maximizing resources and leveraging this unique convergence. It will give the local academic and business communities the ability to collaborate like never before to create new treatments from the most promising discoveries in eye research.

"Supporting the UCI eye institute to make it a reality represents a one-of-a-kind opportunity to help develop an organization that's poised to stand among the best of the best in eye research worldwide," said Dr. Nesburn.

The eye institute will be built on land located within the School of Medicine complex on UCI's main campus in Irvine. It is planned as a three-story plus basement, 80,000 square-foot building with nearly half of its space dedicated to scientific laboratories and research with another significant portion allocated to clinical research and practice. The remainder will be operating rooms, classrooms, offices, conference space and a library.

The finished building will support the major thrust of what the eye institute will set out to accomplish including conducting basic and applied eye research, and educating medical students, residents, health care professionals and the community while providing specialized medical and surgical eye care. Meanwhile, it will provide the structure necessary to forge research

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FROM THE DIRECTOR



Anthony B. Nesburn, M.D. F.A.C.S.
Medical Director

Dear Friends,

In this issue, we're happy to report on the quick progress being made towards building the new home for our research team at the proposed eye institute at University of California, Irvine. The institute is a way of becoming one of the premiere research and education centers in the US, and Discovery Eye Foundation (DEF) is thrilled to be an integral part of shaping it!

Dr. Roger Steinert, profiled on page 3, greatly contributes to the work and stature of the eye institute. The fascinating story about one of his most challenging cases is interesting reading. All of us who follow the advances made by leading researchers like Dr. Steinert are glad to see such dedication rewarded. It's also very gratifying to receive generous responses from patients like Barbara Silverstone who experienced, first-hand, how our work can deeply impact people's lives.

As the researchers and scientists keep on working, good reports about the achievements of DEF-supported research keep unfolding. See the report from our Translational Eye Research Update for the latest news. Likewise, the MDP and NKCF are making excellent progress in their areas of patient outreach and educa-

tion. As evidenced in our last publication, recipients of our patient education from around the nation are finding new and creative ways to raise the necessary funding to support these two programs.

The DEF team is helping put together a high tech, multidisciplinary group of researchers including Dr. Klassen and a group of public spirited philanthropists to form a retinal regeneration center. We will keep you apprised as things evolve. We encourage those of you interested in taking a closer look at our research operation to visit the Morris S. Pynoos Eye Research Laboratories at UCI during our regularly scheduled tours.

As always, my heartfelt thanks go to each one of you who continue to support our success with your generosity.

Kind regards,

Anthony B. Nesburn, M.D., F.A.C.S.
DEF Medical Director

relationships internally and externally, fostering greater collaboration with medical device and pharmaceutical companies to translate discoveries into vision-saving therapies.

EXPERIENCED LEADERSHIP

James Mazzo is chief executive officer of Advanced Medical Optics, Inc. (AMO), a global ophthalmic company headquartered in Irvine. Mazzo is also a trustee of the UCI Foundation and chairman of the steering committee charged with raising the \$55 million needed to build the eye institute. Fund raising is well under way, but much is left to accomplish. As a graduate school, the UCI School of Medicine does not receive any state support for its building construction and therefore must raise funds entirely through private philanthropy.

Mazzo said, "We have assembled an outstanding steering committee to oversee the campaign. Our goal is to have a shovel into the ground by the end of 2007." Like others on the steering committee, Mazzo is hoping that the entire ophthalmic community - corporate, doctors and patients alike - will embrace this project and see it through to completion in 2009.

Other leadership includes Michael Drake, M.D., who took over as UCI's chancellor in July 2005. Also an ophthalmologist and glaucoma specialist, he was the University of California's (UC) vice president for health affairs, a post he held since March of 2000. In that capacity, he oversaw education and research activities at 15 UC health sciences schools, which are distributed among seven campuses.

"The primary mission of the eye institute will be to develop programs, technologies and solutions that preserve and enhance visual health and visual performance. We will accomplish this by maintaining an outward, collaborative focus, and by taking advantage of several unique resources," said George Baerveldt, M.D., chairman of the department of ophthalmology at UCI.

When Baerveldt was at the Doheny Eye Institute, he developed the Baerveldt Glaucoma Implant. Then he came to UCI to develop a revolutionary device, the Trabectome, which was patented, developed and is now sold through NeoMedix Corporation. From this experience, Dr. Baerveldt learned first hand, how partnering with industry can help researchers to reach their goals of helping patients.

NEW APPROACHES TO RESEARCH

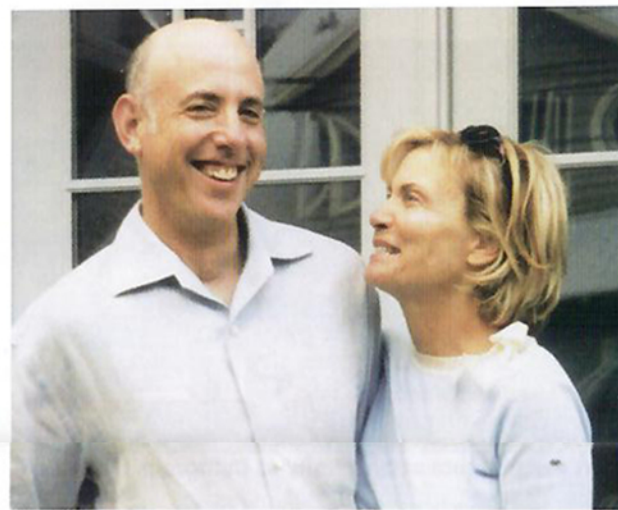
Assembling stellar leadership has been a top priority, as UCI works to build an eye institute geared toward "translational research." Many say this new approach has helped to quickly translate scientific discoveries and ideas into some of the best new treatments and medical devices for eye disease.

For many years, critics have said that too many dollars are spent on scientific research that isn't translated into practical solutions for the world's ailments. Translational eye research takes the best discoveries and innovations and transforms them into diagnostic and therapeutic advances to help patients.

DEF's Anthony Nesburn, M.D., F.A.C.S., also the vice chair for eye research at UCI, explained, "This is one of the most exciting projects I've had the good fortune to participate in. Just one look at the ophthalmology brain trust that the University has assembled so far and it becomes clear that something big is happening here.

It is this kind of success that the UCI eye institute wants to foster. Because the University is a younger institution, it has a different type of energy from the more established universities. It is eager to take its place as one of the outstanding research and scientific institutions internationally. DEF supports that kind of enthusiasm which serves to advance the kind of patient-oriented research that DEF has been supporting for 35 years. Today, attaining our research goals are closer than ever." ▲

GRATEFUL CORNEAL TRANSPLANT RECIPIENT



Dr. David and Barbara Silverstone Laud UCI Eye Surgeon.

Talk to most patients who have endured several eye surgeries, and you'll probably hear plenty of complaints about doctors, hospitals and the entire medical system. Not so with Barbara Silverstone.

"My ophthalmologist is a superstar!" Barbara says. "Before my husband and I celebrated our anniversary on December 5, 2004, I called Dr. Roger Steinert and asked what charity he recommended to support advanced eye research. He said, the Discovery Eye Foundation was - hands down - the best choice we could

make." As a result, the Silverstones recommended that their friends and family donate to the DEF.

What led the Silverstones to support DEF in such a unique way? To start, Barbara's husband, David, is a clinical professor of ophthalmology at Yale. Although David is obviously a big fan of vision research, the real reason for the generosity springs from Barbara's battle against keratoconus, assisted by renowned UCI Ophthalmologist Roger F. Steinert, M.D. (see article on page 3). Barbara's struggle began in her early 20s, when she first experienced vision problems while a senior at UCLA.

"I had a burning desire to attend graduate school, but I was unable to move on because my eyes, especially my left eye, were quickly deteriorating. My first husband and I married soon after I received my undergraduate degree and I became pregnant. I experienced multiple episodes of hydrops (corneal swelling) and lost most of the vision in my left eye during my pregnancy, which resulted in my spending a year with only one working eye. It became clear that I would need a corneal transplant."

Barbara's first corneal transplant in 1976 went well and improved the vision in her left eye to 20/20 with a gas permeable hard contact lens. This allowed her to raise two children and apply to law school once the children reached school age. After an amazing 27 years with no further problems, Barbara's right eye developed multiple corneal problems. She turned to Dr. Steinert, who was then working at Harvard to help.

In June 2003, the right eye received a successful corneal transplant. Within weeks, the 27 year old corneal transplant in Barbara's left eye began to completely break down. They went ahead with a re-transplant of the left cornea in September, 2003 - Barbara's third transplant to-date.

"It has all been incredibly challenging and life altering," says Barbara. "What I appreciated through it all was that Dr. Steinert was always available. He has been so devoted to saving my eyesight and helping me reach my goals."

Incredibly, Barbara now has 20/20 vision without glasses or contact lenses. She is thrilled with the life her surgeries have enabled her to realize. She is still an avid reader, golfer, gardener, cook and traveler.

"I cannot tell you how important it is to me to have such wonderful people helping me all along the way to reach my goals. My husband is a tremendous source of love and strength. Dr. Steinert's superior skills and moral support have made the entire experience easier. That's why I want to support the Discovery Eye Foundation and all the wonderful work that doctors like Roger Steinert are doing to help people hold onto their dreams." ▲

MARK YOUR CALENDARS

A Complimentary Donor Appreciation Event with "The Producers"

In recognition of those who have made a contribution to DEF, NKCF or MDP of \$500 or more in 2005, we thank you and invite you to join us for a night at the movies!

Universal Studios has generously donated a limited number of tickets to an advanced - private screening of the new Mel Brooks blockbuster film of his Tony Award-winning Broadway hit musical, *The Producers*, starring Nathan Lane, Matthew Broderick, Uma Thurman and Will Farrell. Now, you and a guest can be among the first to see it before it opens nationally on December 23rd!

Date: Thursday, December 15th at 7:00 p.m.

Place: City Walk, Universal Cineplex
located at 100 Universal City Plz, Universal City, CA 91608-1002
(Parking is complimentary with a coupon from DEF).

To reserve your tickets or for more information, call (310) 423-6455.

Seats are limited!

Only one pair will be granted per donation.



Discovery Eye Foundation - 3rd Annual Golf Tournament Results

The Biggest and Best Ever with Special Guest Golfer, Baseball Legend - Steve Garvey



Allergan's Matt Ruth and Tom Burnham pictured with Steve Garvey and tournament chairman, James Salz, M.D.

Thanks to Tournament Chairman, Jim J. Salz, M.D., and Vice Chairman, Ronald N. Gaster, M.D., and the entire committee for coordinating a fantastic event held at the beautiful Monarch Beach Golf Links in Dana Point, California. This year's golf tournament was host to approximately 100 golfers from all over the nation, coming from as far as Bethesda, Maryland. Everyone enjoyed the opportunity to play in such a beautiful location while raising much needed funds for eye research at the Morris S. Pynoo's Eye Research Laboratories at UCI.

As luck and skill would have it, The Allergan Cup was won by the 2005 Presenting Sponsor, Allergan. The four-some challenged the skills of other sponsors including AMO, WaveLight, Intralens Vision, Refractec, American Eye Institute, ISTA Pharmaceutical, OASIS Medical and Laser Locators. The tournament was followed by a reception and silent auction with former Los Angeles Dodger, Steve Garvey. A great time was had by all!

Save The Date - Monday, August 21, 2006

Join us next year for the **4th Annual Golf Tournament at Monarch Beach Golf Links**. Look for announcements in future DEF publications or on the web-site at www.discoveryeye.org. For immediate information, please call 310-423-6455.

DISCOVERY EYE FOUNDATION EVENTS

MEDICAL PROFILE



Roger F. Steinert, M.D., Eye Expert Directs Cornea Surgery at UCI

For most ophthalmic surgeons, gaining recognition as an expert in one specialty like refractive, cataract or corneal surgery is an outstanding achievement in itself. University of California, Irvine (UCI)'s multitalented Roger Steinert, M.D. has been recognized repeatedly for his work in all three of these surgical specialties. The deeper reason why Dr. Steinert decided to join UCI and assist in the effort to build the UCI eye institute, however, goes beyond a desire to further his already successful career.

"Each of us has a limited reach on a personal and individual level. I'd like to think in some modest, small way, I am embarking on work that will advance the field," he said. Dr. Steinert is the director of cornea, refractive and cataract surgery, vice chair of clinical ophthalmology and a professor of ophthalmology and bioengineering at UCI. He has proven to be particularly adept at advancing eye surgery and therapeutics through the use of technology.

As the medical monitor for a number of FDA studies, he became one of the first doctors to work with the excimer laser. He directed the extensive testing of the laser which led to the first approval of the product for laser vision correction in 1995. He has helped to develop and teach numerous surgical techniques for cataract surgery and management of its complications. Testifying to the high reputation he holds among his peers, Dr. Steinert was appointed in May to become the president of the American Society of Cataract and Refractive Surgery.

"We now have a very strong group of people at UCI and Roger is taking it to the next level with his leadership," said Dr. Baerveldt, chairman of the UCI ophthalmology department.

Along with his other work at UCI, Dr. Steinert is researching the use of lasers for corneal therapeutics. "We've made great progress with wavefront technology and primary treatments, but we still have some real challenges when we turn around and try to use it for therapeutics," Dr. Steinert said.

More and more, laser technology is doing away with invasive surgical procedures which slice into delicate eye tissues and require significant healing management. If Dr. Steinert can help create new non-invasive approaches to corneal surgery and therapeutics, patients stand to realize significant benefits.

Since his move to UCI from Harvard about one year ago, Dr. Steinert said, "It's been thrilling to see the new eye institute, research and clinical activities coming together so quickly." ▲

MACULAR DEGENERATION PARTNERSHIP NEWS



Presenting an award to Congressman Howard Coble are (left to right) Mary Martin, Chairman of the Board of the Senior Coalition, Flora "Granny" Green, National Spokesperson for the Senior Coalition and Judith Delgado, Director of the Macular Degeneration Partnership.

MDP Goes to Washington

To present the case for increased awareness of AMD and funding of age-related macular degeneration research, the Macular Degeneration Partnership (MDP) visited the US House of Representatives from September 20-22. Judith Delgado, director of the MDP, joined the Seniors Coalition, AMD Alliance International and Prevent Blindness America to present the dire need for more government grants and education for Americans with AMD. The Congressional Briefing included presentations by experts and distribution of MDP's comprehensive AMD Toolkit™. Delgado and colleagues presented the Toolkit™ and recognition awards to members of the Congressional Vision Caucus. The reception on the Hill lays the groundwork for future legislative efforts.

MDP Educational Seminar in LA

The annual Patient Education Seminar was held on September 17, 2005 at Cedars-Sinai Medical Center in Los Angeles. A Vision Resource Fair helped attendees find low vision devices, free services and useful programs. Roger L. Novack, M.D., Ph.D., presented up-to-the-minute information about AMD research and treatments. Leslie Burkhardt from the Braille Institute, encouraged the audience to learn "interdependence skills" as

they cope with low vision. Among these are new actions like asking for a ride to the store or help with household tasks.

Lucentis Stabilizes or Improves Vision

One of the topics discussed by Dr. Novack at the seminar was the upcoming FDA submission of the new drug Lucentis™ for wet AMD. In clinical trials, Lucentis demonstrated the ability to improve vision, according to drug manufacturer Genentech. "...For the first time, we have a potential treatment which has been shown to improve vision...as opposed to just slowing progression of vision loss," said Joan W. Miller M.D., a specialist at Harvard's Massachusetts Eye and Ear Infirmary.

Analysis of one-year results from an ongoing clinical trial delivered exciting results. Ninety-five percent of patients treated with Lucentis had stable or improved vision. ▲

For more information, visit <http://www.AMD.org>.

NATIONAL KERATOCONUS FOUNDATION NEWS

The National Keratoconus Foundation (NKCF) has been incorporated into the DEF family as part of a broad strategic plan that includes consolidating and conserving precious foundation resources. As a result, the NKCF has dissolved its independent non-profit 501(c)3 status and will operate under the Discovery Eye Foundation's 501(c)3. This will afford both organizations the opportunity to further collaborate and maximize resources and staff.

Corneal Transplant Booklet Available in English and Spanish

The NKCF is proud to announce publication of the second edition of the booklet, "Corneal Transplant Surgery: A Reference Guide for Patients and their Families." This comprehensive patient-oriented guide is available at no cost to the more than 40,000 people in the US who undergo corneal transplants annually.

The booklet provides an overview and description of corneal transplant surgery, with information on what a patient can expect during and after surgery and the possible risks and complications. It is an excellent aid for patients who are trying to decide if surgery is the right option for them. To further serve the keratoconus community, a Spanish language translation will be available in 2006. NKCF has two other patient-oriented publications available to the public: a regular newsletter and a reference guide entitled, "What is Keratoconus?" This guide is also available in Spanish. ▲

For more information, visit <http://www.nkcf.org>.

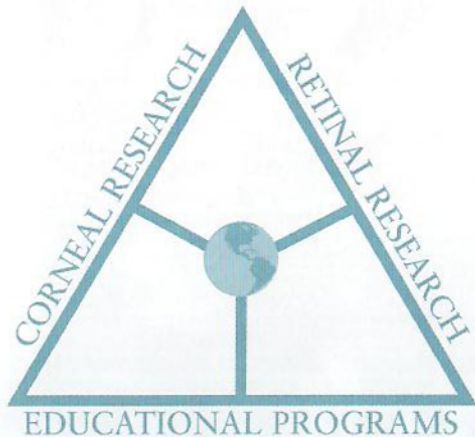
Discovery Eye Foundation (DEF)

is a 501(c)3 dedicated to finding cures and treatments for corneal and retinal eye diseases. It supports scientists participating in groundbreaking eye research particularly in the areas of diabetic retinopathy, macular degeneration, ocular herpes, keratoconus and other sight threatening conditions.

DEF also supports two excellent educational programs with world-wide reach, Macular Degeneration Partnership (MDP) and the National Keratoconus Foundation (NKCF). These programs uniquely serve a growing population affected by eye disease with opportunities for Internet interaction, free printed educational materials and telephone access to a healthcare professional.



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Mission Statement:

Discovery Eye Foundation exists to facilitate the development of cures and improve patient care through corneal and retinal research and educational programs for eye disease.

TRANSLATIONAL EYE RESEARCH UPDATES

Translational eye research takes the best discoveries and innovations, and transforms them into diagnostic and therapeutic advances to help patients.

Oxidative Stress and Keratoconus

Oxidative stress is behind keratoconus (KC). The research team led by Cristina Kenney, M.D., Ph.D. has discovered a fascinating link between oxidative stress and keratoconus (KC). It appears that this culprit now commonly blamed for a long list of degenerative diseases is also, to some degree, responsible for KC. Based upon the evidence uncovered so far, it is recommended that people with KC wear UV protection and avoid rubbing the eyes or using poor-fitting contact lenses, since both can cause further eye trauma. It is also recommended that KC eyes be kept comfortable with artificial tears, non-steroidal anti-inflammatory drugs and/or allergy medications.

Herpes As A Killer

Because it doesn't happen often, few people are aware that herpes can be a chillingly efficient killer. When a patient is stricken with herpes of the brain, the chance of surviving this kind of encephalitis is almost zero. That's why the Neurology Institute has given Oscar Perng, Ph.D. a high-priority score for a grant proposal he recently submitted to study how this disease kills. Dr. Perng hopes to begin his work soon, as the rest of the herpes research team keeps working toward a vaccine for the more common forms of the virus, which causes genital and eye herpes.

Stem Cells Slow Retinal Degeneration

The research team led by Henry Klassen, M.D., Ph.D. has shown that stem cells can significantly slow genetically-caused degeneration of retinal cells in model systems. As part of his research, Dr. Klassen is making progress in the challenging task of developing a large enough supply of retinal progenitor cells for use in his studies. One of the key components of his research has been to use non-fetal stem cells from adults and neonates. This also avoids the politics involved in using fetal tissue. His groundbreaking work was recently covered in the July 2005 issue of National Geographic magazine.

Sophisticated Microscope Focuses on Corneal Scarring

Corneal scarring from disease or trauma frequently causes severe vision problems that necessitate corneal transplants. By learning more about how scarring occurs, James Jester, Ph.D. is working to prevent scarring before it happens. Progress is now being made with the help of a multiphoton laser confocal microscope. This sophisticated microscope allows researchers to create extremely informative images that reveal hidden disease processes. ▲

A GLANCE AT WHAT'S INSIDE

UCI Eye Institute



Complimentary Invitation to The Producers!



Also inside:

Translational Eye Research Update - Tour the Morris S. Pynoos Eye Research Laboratories

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