

EYE

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New Approach to Treating Orbital Effects of Graves' Disease

Treatment for Graves' orbitopathy (also called thyroid eye disease) has improved in recent years, thanks in part to the leadership of the internationally renowned surgeons at the Jules Stein Eye Institute's Orbital Disease Center. Nonetheless, current medical and surgical approaches are aimed at symptomatic relief, without addressing the underlying disease. However, exciting new discoveries in laboratory research at Jules Stein have led to an understanding of Graves' orbitopathy and have opened up new avenues for better treatment to stave off the effects of the disease.

Graves' Disease

Graves' disease is a disorder of the immune system in which lymphocytes (a type of white blood cell) involved in the body's protective defenses begin attacking the body's own tissues. Although it can strike at any age, Graves' disease most commonly occurs in young adults in their 30s and 40s, with women being nine times more likely than men to develop the disease.

Many of the body's tissues are affected, but the two most vulnerable targets are the thyroid gland and the area around the eyes. When the thyroid gland is affected, it causes an overproduction of the thyroid hormone, leading to symptoms such as nervousness, rapid heart-beat, sleeplessness and weight loss. When the tissue surrounding the eyes is attacked, the inflammation pushes the eye forward in its socket, and the eye muscles tighten and lose their ability to stretch, preventing the eyes from moving normally. The eyes also tend to feel scratchy and irritated.

"At least three-fourths of people with Graves' disease experience eye problems," says **Robert Alan Goldberg, MD**, Professor of Ophthalmology and Director of the Orbital Disease Center. "The earliest sign for most patients is swelling or bulging of the eyes. This inflammation tends to change the patient's appearance dramatically, which is very difficult psychologically, particularly for younger patients at the prime of their lives. It can also affect sight, with varying symptoms including double vision, decreased vision, and in the most severe cases, even loss of vision."

Most, but not all, patients experience both thyroid and eye problems within a six-month time frame, though the symptoms can be spread far apart in time. For patients who have not experienced thyroid problems—those with so-called euthyroid Graves' disease—diagnosis can be easily overlooked by the patient's primary care physician, Dr. Goldberg notes.



From left, Drs. Robert Goldberg, Raymond Douglas and Terry Smith discuss ideas for laboratory research into the cause and treatment of Graves' disease.



“Exciting new discoveries in laboratory research at Jules Stein have led to an understanding of Graves’ orbitopathy and have opened up new avenues for better treatment to stave off the effects of the disease.”



Surgeries developed at JSEI can restore vision and improve the disfigurement resulting from Graves’ eye disease.

The inflammation associated with Graves’ orbitopathy can come on at any time but usually occurs within the first 12–18 months after diagnosis. This “active phase” of inflammation generally persists for between six months and two years, before subsiding. “The chance of a recurrence after the active phase has ended is low,” says **Raymond Douglas, MD, PhD**, an ophthalmologist and researcher who was a fellow at JSEI. “Unfortunately, the scarring remains and the patient’s appearance never returns to normal.”

Current Clinical Treatments

Treatment of the eye symptoms in the active phase starts with medicines, the simplest of which include drops, gel preparations and other lubricating ointments for the eye’s surface, which dries in Graves’ disease because the eyelids are tight and do not blink properly, and because the glands that normally produce the lubricating tears are inflamed and not functioning well. When the symptoms become more severe, anti-inflammatory medication is often prescribed—most commonly, corticosteroids. Because corticosteroids have long-term side effects, they are usually prescribed for short-term use during the most active phase of the disease. Another anti-inflammatory treatment is orbital radiotherapy, in which the orbit is treated with a low dose of radiation.

For patients who continue to experience problems despite medical treatment, several types of surgery are offered. “We start with medical treatment to try to get the disease under control, and then we go on to surgical treatment for patients who continue to have problems with bulging or vision,” Dr. Goldberg explains. These surgeries, which have been refined by Dr. Goldberg and colleagues, include orbital decompression, in which the fatty tissue that has swollen behind the eye is removed to allow the bone to move back into its socket; eye muscle surgery, which seeks to provide relief from double vision by repositioning the displaced muscle; and eyelid surgery, which repositions eyelids that have become too wide or droopy as a result of the disease. “We have made a lot of progress in reducing the risk and improving the predictability of these surgeries,” says Dr. Goldberg.

Pioneering Research

Even more exciting is the progress being made in Jules Stein Eye Institute research laboratories and the Division of Molecular Medicine at Harbor-UCLA Medical Center in getting to the root causes of the disease. A research group headed by **Terry J. Smith, MD**, Professor of Medicine and a member of JSEI, recently made a dramatic discovery with the identification of an antibody invariably associated with Graves’ disease. Dr. Smith, an endocrinologist and



Drs. Robert Goldberg (right) and Raymond Douglas (second from right) perform surgery, developed at JSEI, to restore vision in a patient with Graves’ disease.

molecular biologist, found that this antibody recognizes the insulin-like growth factor-1 receptor (IGF-1R), long known to play an important role in metabolism and growth but never before implicated in the Graves’ disease process. “We have found that IGF-1R plays a critical role in how lymphocytes become activated by the antibody we discovered and infiltrate the thyroid gland and the orbit,” Dr. Smith explains. “Moreover, we have developed a number of molecular and immunologic tools to interrupt the abnormal signaling that results in lymphocyte activation.”

Dr. Smith’s group has discovered that the same mechanism for lymphocyte activation in Graves’ disease is also involved in rheumatoid arthritis. His laboratory has developed a therapy that has successfully blocked the activation of IGF-1R in the laboratory, both in rheumatoid arthritis and in Graves’ orbitopathy. “Now, we need to work toward bringing these insights to the bedside,” says Dr. Smith.

Dr. Douglas, who splits his time between seeing patients with Graves’ disease and thyroid orbitopathy and working on research to better understand the root causes of the disease, has worked with Dr. Smith in the key discovery that IGF-1R is expressed at higher levels in the tissue behind the eyes and in the thyroid of patients affected by Graves’ disease. This has led to the ability to test for antibodies to IGF-1R in the diagnosis of the disease, and it has led Dr. Douglas to develop a mouse model designed to enable testing of therapeutic interventions. “We are starting to figure out ways to block this antibody/receptor interaction,” says Dr. Douglas. “It is a very exciting development for a disease process that has long been poorly understood.”

EYE

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U.S. NEWS & WORLD REPORT CITES JULES STEIN EYE INSTITUTE AS BEST OPHTHALMOLOGY CENTER IN THE WEST

Jules Stein Eye Institute ranks as the best eye care center in the Western United States for the 16th consecutive year, according to a *U.S. News & World Report* survey of board-certified specialists from across the country. The 16th annual guide to America’s best hospitals was published in the magazine’s July 18, 2005, edition.

Jules Stein Eye Institute has continually ranked among the top ophthalmology centers in the country. UCLA Medical Center is also number one in the West and is the only Southern California hospital to earn a spot on the magazine’s “honor roll” rankings during the 16 years U.S. News has conducted the survey.



JSEI CLINICAL AND RESEARCH SEMINAR

Coordinators:

Anthony C. Arnold, MD
Robert A. Clark, MD
Robert Alan Goldberg, MD

Gary N. Holland, MD
Bartly J. Mondino, MD
Xian-Jie Yang, PhD

The Jules Stein Eye Institute's Clinical and Research Seminar on May 20–21, 2005, was dedicated to the memory of **Thomas H. Pettit, MD**, former Associate Director of the Jules Stein Eye Institute and First Chief of the Cornea External Ocular Disease Division, who passed away in March 2005. Mrs. Betty Pettit, along with family members, traveled to the Institute to attend the tribute to Dr. Pettit and the Third Thomas H. Pettit Lecture presented by **Don Kikkawa, MD**, Professor of Ophthalmology and Chief of Orbital and Ophthalmic Plastic Surgery at the University of California, San Diego. Dr. Kikkawa's lecture was entitled "Multidisciplinary Treatment of Thyroid Orbitopathy."

The event was sponsored by the Department of Ophthalmology Association and featured named lectures and invited guest lectures. The thirty-sixth Jules Stein Lecturer was **Edwin M. Stone, MD, PhD**, Professor of Ophthalmology at the University of Iowa, whose lecture was entitled "Genetic Testing is the Key to Curing Inherited Blindness." The Third Bradley R. Straatsma Lecturer was **Martin Friedlander, MD, PhD**, Professor of Cell Biology at the Scripps Research Institute and Chief of the Retina Service at Scripps Clinic, whose lecture was entitled "Stemming Vision Loss with Stem Cells." Also included in the program was a lecture by **Mr. Dennis Tito**, Chairman and Chief Executive Officer, Wilshire Associates, Inc. (First Space Tourist), whose lecture was entitled "Eye Care Issue in Weightlessness." Other invited guests included **William Good, MD**, Smith-Kettlewell Eye Research Institute; **Henry Kawamoto, MD**, Clinical Professor of Plastic Surgery, University of California, Los Angeles; and **Daniel Schwartz, MD**, Associate Professor of Ophthalmology, University of California, San Francisco.

Among the many honors bestowed on the occasion was the Irvine Prize, to recognize excellence among Department of Ophthalmology faculty. **Leonard Apt, MD**, and **Dean Bok, PhD**, were awarded the honor this year and added to the list of eminent physicians, clinicians and educators who have received the prize. Senior Honor Awards were presented to volunteer faculty members **Thomas A. Hanscom, MD**; **David S. Katzin, MD**; **Alan L. Shabo, MD**; and **Hector L. Sulit, MD**; for their long record of service to the teaching programs of UCLA and its affiliated hospitals. JSEI third-year residents presented **Bruce B. Becker, MD**, with an award for outstanding volunteer faculty teacher.



From left, Drs. Bartly Mondino, Jules Stein Lecturer Edwin Stone, and Dean Bok



From left, Drs. Robert Goldberg, Thomas H. Pettit Lecturer Don Kikkawa, and Bartly Mondino; Pettit family members Mrs. Heather Johnson, Mr. Duncan Johnson, Mrs. Betty Pettit, Mr. Olin Beck, Mrs. Dru Beck; Drs. Gary Holland and Bradley Straatsma



From left, Drs. Bartly Mondino, Bradley R. Straatsma Lecturer Martin Friedlander, and Bradley Straatsma

DESTINATIONS OF GRADUATING RESIDENTS AND FELLOWS

Jules Stein Eye Institute graduation ceremonies were held on Saturday, May 21, 2005, at the UCLA Faculty Center. The graduates and their destinations are as follows:

Residents

Sean M. Dumars, MD
Pediatric Ophthalmology and Strabismus Fellowship
Jules Stein Eye Institute
University of California,
Los Angeles
Los Angeles, California

Wei Jiang, MD
Private Ophthalmic Practice
Pleasanton, California

Tanuj Nakra, MD
Orbital and Ophthalmic Plastic Surgery Fellowship
Jules Stein Eye Institute
University of California,
Los Angeles
Los Angeles, California

Polly A. Quiram, MD, PhD
Vitreoretinal Surgery Fellowship
Associated Retina Consultants
Beaumont Hospital
Royal Oak, Michigan

Reem Z. Renno, MD
Private Ophthalmic Practice
Houston, Texas

Fellows

Clinical Fellows

Kimberly D. Davis, MD
Head of Glaucoma Services
Naval Medical Center
San Diego, California

David A. Hollander, MD
Associate Physician Diplomate
Cornea-External Ocular
Disease & Uveitis Division
David Geffen School of Medicine
at UCLA
Jules Stein Eye Institute
Los Angeles, California

Julie A. King, MD
Private Ophthalmic Practice
Southern California

Joanna D. Lumba, MD
Private Ophthalmic Practice
San Francisco, California

Robert M. Schwarcz, MD
Cosmetic Surgery Fellowship
Santa Monica, California
Private Ophthalmic Practice
Van Nuys and Upland, California

Scott C. So, MD
Private Ophthalmic Practice
Ventura, California

Kelvin Tang, OD
Private Practice
San Francisco, California

David G. Telander, MD, PhD
Assistant Professor of Ophthalmology
University of California, Davis
Sacramento, California

International Fellows

Federico Badala, MD
Visiting Assistant Professor
Wills Eye Hospital,
Cornea Division
Philadelphia, Pennsylvania

Hector J. Fontana, MD
Staff Ophthalmologist
Hospital Oftalmologico
Santa Lucia
Buenos Aires, Argentina

Setsuko Hashida, MD
Private Ophthalmic Practice
Tokyo, Japan
Namyee Kang, MD
Assistant Professor
Department of Ophthalmology
Holy Family Hospital
Seoul, Korea

Hui-Chaun Kau, MD
Assistant Professor and Chief of Ophthalmology
Tao-Yuan Hospital
Taiwan, China

Anita Manassakorn, MD
Instructor of Ophthalmology
Chiang Mai University
Chiang Mai, Thailand

Kouros Nouri-Mahdavi, MD
Resident Physician
Department of General Surgery
University of California,
San Diego
San Diego, California

Maria Carolina Ortube, MD
Postdoctoral Research Fellow
Jules Stein Eye Institute
University of California,
Los Angeles
Los Angeles, California

Pawan Prasher, MD
Ophthalmic Pathologist
India

Apiradi Prechanond, MD
Ophthalmologist
Bangkok, Thailand

Alejandra S. Tartara, MD
Staff Ophthalmologist
Buenos Aires Children's Hospital
Ophthalmology Department
Buenos Aires, Argentina

Angelo Tsirbas, MD
Visiting Assistant Professor
New York, New York

Akihiro Yasuda, MD
Faculty Ophthalmologist
Department of Ophthalmology
St. Luke's International Hospital
Tokyo, Japan

RECOGNITION OF EXCELLENCE IN RESEARCH

Independent research was recognized during the May 21, 2005, graduation ceremonies.

Peter J. Kappel, MD
Resident Research Award—
Clinical Sciences
Outcomes Associated with Ganciclovir Implants in Patients with AIDS-Related Cytomegalovirus Retinitis

Hector J. Fontana, MD
Fellow Research Award—
Clinical Sciences
Outcomes of Trabeculectomy with Adjunctive Mitomycin C in Phakic Patients with Open-Angle Glaucoma

Rajendra Kumar, PhD
Postdoctoral Fellow
Research Award—
Laboratory Sciences
Small Heat Shock Protein β -Crystallin Is Part of Cell Cycle-dependent Golgi Reorganization



Excellence in Research Award winners (left to right) Drs. Rajendra Kumar, Hector Fontana and Peter Kappel.

HEED FELLOW SELECTED

With great pleasure, we announce the selection of **Sophie Deng, MD**, and **Andrew Doan, MD, PhD**, as Heed Fellowship recipients for 2005–2006. The fellowship



Dr. Sophie Deng



Dr. Andrew Doan

provides postgraduate support to outstanding ophthalmologists who will pursue academic careers in ophthalmic patient care, education and research. Drs. Deng and Doan commenced clinical fellowships at Jules Stein Eye Institute in cornea external ocular disease/refractive surgery/uveitis, and ophthalmic pathology, respectively, in July 2005.

FORMER EYESTAR FELLOW RECEIVES AUPO AWARD

Steven Tsang, MD, PhD, Assistant Professor of Ophthalmology at Columbia University, New York, and former resident and EyeSTAR fellow at the Jules Stein Eye Institute, received the Becker/RPB/ AUPO Physician-Scientist Development Award. The AUPO grant was established to support the development of outstanding clinician scientists, and provides a yearly stipend of \$100,000 to support a three-year period of supervised research. Dr. Tsang is a recent graduate of the UCLA EyeSTAR program—a six-year program that offers vision science postdoctoral training combined with an ophthalmology residency. He trained under **Debora B. Farber, PhD, DPhhc**, Karl Kirchgessner Professor of Ophthalmology at the Jules Stein Eye Institute.

VISION SCIENCE

DISCOVERING THE BIOCHEMICAL CAUSES OF RETINAL DISEASES

In the same way that so many scientific discoveries are equal parts insight and chance, the path that **Gabriel H. Travis, MD**, Charles Kenneth Feldman Professor of Ophthalmology, followed on his way to becoming a vision scientist at Jules Stein Eye Institute was not always clear.

Dr. Travis went to medical school at UCLA and continued through residency training with the intention of becoming a neurologist. However, Dr. Travis found he enjoyed the element of creativity and detective work that is fundamental to laboratory science and became solidly entrenched in research that is providing important information, which could lead to potential treatments for human eye diseases such as retinitis pigmentosa and Stargardt macular degeneration.

After completing his residency, Dr. Travis spent three years as a postdoctoral fellow at UCLA's Molecular Biology Institute before moving on to a neurobiology fellowship at Scripps Research Institute. Dr. Travis was interested in studying mice with spontaneous mutations in nervous system genes. The approach he adopted was to study the retina as a proxy for the brain. He began looking at mouse photoreceptor degeneration mutations, in particular one called *retinal degeneration slow (RDS)*. With a technique he helped develop called “subtractive hybridization,” Dr. Travis cloned the gene for *RDS*, and began to view his work in a different light. “I realized that photoreceptors are much more interesting on their own than as models for other brain cells. At that point I decided my future was in vision science.”

It was not long before Dr. Travis discovered the clinical implications of his research. Recruited to the University of Texas Southwestern Medical Center faculty in 1989, he pursued his observation that the *RDS* mouse showed striking similarities to certain forms of inherited blindness in humans. Sure enough, Dr. Travis and his research colleagues found that *RDS* was mutated in autosomal-dominant retinitis pigmentosa—a form of the disease that causes the degeneration of photoreceptor cells in the retina, leading to progressive vision loss.



Dr. Gabriel Travis

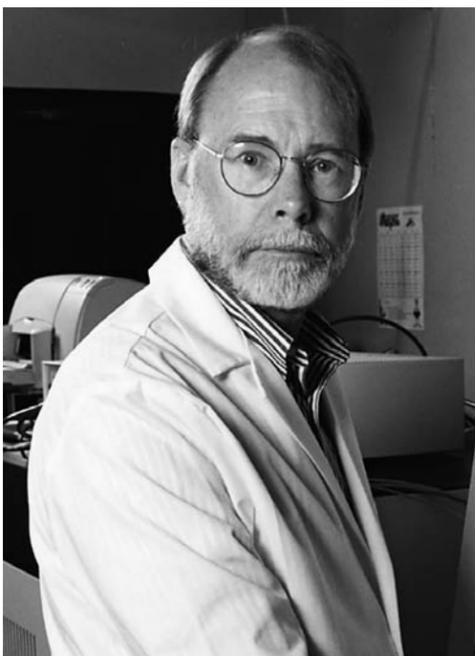
Later, Dr. Travis extended his investigations to another human blinding disease, Stargardt macular degeneration. He and others simultaneously cloned the gene for Stargardt, called *ABCR*. Dr. Travis and colleagues generated mice with a “knock out” mutation in the *ABCR* gene as an animal model of Stargardt disease. Working with **Nathan Mata, PhD**, then a postdoctoral fellow in Dr. Travis' lab, they determined the function of the *ABCR* protein and the molecular cause of blindness in Stargardt patients.

Dr. Travis moved to Jules Stein Eye Institute in 2001. Working with **Roxana Radu, PhD**, another postdoctoral fellow in his lab, they began testing a pharmacological approach to treating *ABCR*-deficient mice by inhibiting a step in the visual cycle and thus slowing rhodopsin regeneration. This approach, using the dermatologic drug *Accutane*, successfully inhibited the accumulation of toxic pigments in the eyes. A La Jolla-based company is now seeking to capitalize on this work by developing a pharmacologic treatment for human Stargardt disease.

Meanwhile, Dr. Travis and colleagues have continued to learn more about the regeneration of rhodopsin. Recently, Dr. Travis and **Minghao Jin, PhD**, a scientist in Travis' laboratory, showed that a protein called Rpe65 is the long-sought isomerase in the visual cycle. Humans with mutations in the gene for Rpe65 suffer from a severe degenerative blinding disease called Leber Congenital Amaurosis. Their work on the function of Rpe65 was recently published in the journal *CELL*.

Although Dr. Travis could not have predicted that he would become a vision scientist, he believes there is no better field for him. “Over the decades, ophthalmologists have been characterizing retinal diseases without, in most cases, understanding the underlying biochemical causes,” Dr. Travis says. “Now, we have this awesome tool kit that enables us to determine exactly what is happening biochemically. This affords an excellent opportunity to repair the biochemical defect and thus prevent the progression of blindness. The scientific resources here at Jules Stein cover the waterfront, and we're taking advantage of them.”

DR. WAYNE HUBBELL ELECTED TO THE NATIONAL ACADEMY OF SCIENCES



Dr. Wayne Hubbell

Jules Stein Professor of Ophthalmology and Distinguished Professor of Chemistry and Biochemistry **Wayne L. Hubbell, PhD**, was elected into the National Academy of Sciences (NAS) on May 3, 2005, one of the highest honors that can be awarded to a U.S. scientist or engineer.

“The entire Jules Stein family takes great pride in the election of Dr. Hubbell to the National Academy of Sciences,” says **Bartly J. Mondino, MD**, Director of the Jules

Stein Eye Institute and Chair of the Department of Ophthalmology. “Election to the National Academy of Sciences is recognition reserved for the truly outstanding scholars in their fields. Dr. Hubbell’s selection is evidence of his superb scholarship and reflects Jules Stein Eye Institute’s standing as a world-class vision science research center.”

Dr. Hubbell, who joined the UCLA faculty in 1983, has focused his research on understanding the relationship between the molecular structure of a protein and the conformational changes that control its function. Of particular interest are membrane proteins that behave as “molecular switches”—proteins whose structures are switched to an active state by a physical or chemical signal. A primary example under study is light-activated rhodopsin, the visual pigment in photoreceptor cells of the retina. Dr. Hubbell’s goal is to clarify the structure of rhodopsin, the mechanism of the molecular switch, and the regulation of this switch by associated proteins. To investigate these proteins, his laboratory developed the technique of site-directed spin labeling, a novel and powerful approach to the exploration of protein structure and dynamics.

Dr. Hubbell is one of a very small number of outstanding physical scientists whose research focus is the visual system. His research is primarily supported by a grant from the National Eye Institute, but he feels that the most valuable funds at his disposal have come from the unrestricted monies generated by his endowment. “A scientist is not limited in his ideas, but limited in the tools available to pursue those ideas. Without this resource, the development of site-directed spin labeling would have been nearly impossible,” says Dr. Hubbell.

The National Academy of Sciences is a private organization of scientists and engineers dedicated to the advancement of science and its use for the general welfare. It was established in 1863 by a congressional act of incorporation signed by Abraham Lincoln that calls on the academy to act as an official adviser to the federal government, upon request, in any matter of science and technology. The new members of the National Academy of Sciences elected May 3 bring the total number of active members to 1,976.

OPHTHALMOLOGY HALL OF FAME INDUCTIONS

The American Society of Cataract and Refractive Surgery (ASCRS) inducted **Robert M. Sinskey, MD**, UCLA Clinical Professor of Ophthalmology, and **Gholam A. Peyman, MD**, Professor of Ophthalmology at Tulane University and former JSEI fellow, into the Ophthalmology Hall of Fame during its annual meeting in Washington, D.C., on April 15–20, 2005. Dr. Sinskey was recognized for his significant contributions to the practice of cataract surgery and for extending the benefits of eye surgery to children in underdeveloped countries. The ASCRS Foundation recently named the Robert M. Sinskey Pediatric Eye Clinic in Addis Ababa, Ethiopia, in his honor. Dr. Peyman was recognized for his pioneering efforts in vitreoretinal surgery and intraocular drug delivery. He also patented a method of modifying refractive error with an excimer laser used beneath a corneal flap (LASIK).

The Ophthalmology Hall of Fame was created by ASCRS in 1999 to honor pioneers who have shaped the way modern ophthalmology is practiced. Physicians selected for this honor are chosen by their peers.

EYE LINES



UCLA Department of Ophthalmology Association

Reflecting on the Past, Looking to the Future

The Resident Graduation Ceremony on May 21, 2005 took place at an intimate and fun dinner reception at the UCLA Faculty Club. In attendance were the current residents and fellows and their families, JSEI faculty, and returning alumni from the graduating classes of 1965, 1975, 1985 and 1995.

The UCLA Department of Ophthalmology Association, introduced and gave a gift to the returning alumni. A representative from each honored alumni class was then invited to present an anecdote about their time at JSEI. **Robert Hepler, MD**, and **Alan Shabo, MD**, both shared entertaining stories about “the way things were” in 1965 and 1975, respectively. Reports from the returning alumni, and from the residents and fellows, were very positive. The residents enjoyed the connection to the past, and the returning alumni were pleased to meet the upcoming and graduating resident classes and the current faculty. Dr. Gardner noted that “events like these, when alumni can connect to the current residents and also renew longstanding friendships with their classmates, create the traditions that bind us together as an extended family.”

Save the Date

October 16, 2005!

The UCLA Department of Ophthalmology Association will host its annual reception at the American Academy of Ophthalmology, Sunday, October 16, 2005, from 5:00pm to 8:00pm at the W Chicago Lakeshore Hotel in Chicago, Illinois.

Mark your calendars to join us! Contact the JSEI Development Office at (310) 825-4148 for additional information.



From left, resident Dr. Emma Clay (to graduate in February 2006) and graduating residents Drs. Sean Dumars, Wei Jiang, Tanuj Nakra, Polly Quiram and Reem Renno celebrate the evening.

KIRCHGESSNER FOUNDATION GRANT FOR VISION RESEARCH

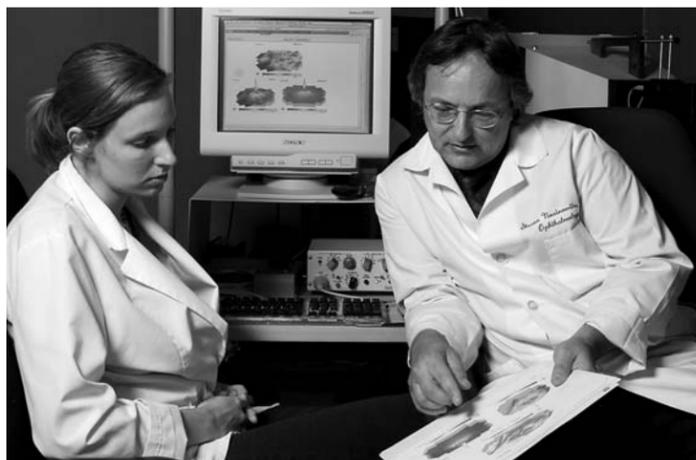
Steven Nusinowitz, PhD, Assistant Professor of Ophthalmology, received a vision research grant from The Karl Kirchgessner Foundation to underwrite his basic science investigations in genetic retinal diseases.

Dr. Nusinowitz, who joined the Jules Stein Eye Institute in 2001, focuses his research on the study of the sites and mechanisms of disease action in inherited eye diseases, such as retinitis pigmentosa and macular degeneration. Using electrophysiological and psychophysical techniques, he is evaluating patients with diseases of the retina and known genetic abnormalities to better understand how specific gene mutations result in the broad spectrum of disease expression. In the laboratory, he is studying mice with visual disorders to identify new genes that may be involved in human disease, and develop viable animal models that can be used to test therapeutic interventions.

The funds from the Kirchgessner Foundation grant will be used to advance both basic science and clinical studies of Stargardt disease, an early-onset form of macular degeneration that is caused by mutations in the ABCR gene. Ongoing research at JSEI is aimed at developing a therapeutic intervention that might slow or halt the progression of this disease. Recent studies on a mouse model of Stargardt disease suggest that disrupting the visual cycle with pharmaceutical agents may be a viable strategy for a cure.

Dr. Nusinowitz's laboratory has been using noninvasive techniques in mice to investigate how disruptions at different sites in the visual cycle affect visual function, particularly the adjustment to darkness, called dark-adaptation. The Kirchgessner grant will allow this work to continue, as new therapeutic agents are developed. Dr. Nusinowitz's laboratory simultaneously will pursue a comprehensive assessment of visual function in Stargardt patients, employing techniques similar to those used in the mouse model. A comparison of the human and mouse data will help clarify the sequence of events resulting in disease expression. Additionally, Dr. Nusinowitz will use part of the Kirchgessner funds to develop a technique to measure noninvasively the formation and clearance of toxic retinal pigments in live *abcr*^{-/-} mice, information that will be important for disease staging and later as a possible treatment outcome measurement for a Stargardt trial.

The Karl Kirchgessner Foundation has been a loyal donor to the Jules Stein Eye Institute for several decades, with the establishment of an endowment fund and a term-chair, both to support vision science research. **Martin Webster**, Foundation President, stated, "Supporting laboratory research is vitally important, as these studies will help investigators understand the causes of eye diseases, and ultimately uncover new methods for diagnosis, treatment, cure, and prevention."



Dr. Steven Nusinowitz reviews electrophysiological data from a patient who has Stargardt disease with research laboratory assistant Julie Garchow.

BEQUESTS: CREATING A LEGACY

Bequest commitments through wills and trusts are perhaps the most popular type of charitable gift. They provide the opportunity to create a personal legacy that will benefit UCLA's Jules Stein Eye Institute after personal and family needs have been met.

Bequests are usually stated as a:

- ~ percentage of an estate
- ~ specific dollar amount or specific devise (i.e., personal residence)
- ~ residual of an estate

Benefits of a charitable bequest:

- ~ It is a tax-effective means of supporting vision research and health care.
- ~ You have use of the asset while you are alive.
- ~ You can designate your gift to a priority that meets your interests.
- ~ It is revocable and can be altered, if your financial circumstances change.

What you should know about arranging a bequest:

- ~ The Development Office is pleased to assist you and your legal counsel by providing sample language to ensure that your gift is used as you intend.

How bequests benefit JSEI:

- ~ They represent a significant source of funds that support research, education, patient care, and public service programs. Bequests help JSEI maintain its position as the best eye care center in the western United States.

For more information on how to include JSEI in your estate plans, please contact Melania Vartanian, Associate Director of Development, at (310) 825-3381.

DONOR FUNDS AUDIOVISUAL RECORDING PROJECT IN JSEI OPERATING ROOM



Joseph Chase Murphy (right) shown with faculty member Dr. Kevin Miller

Thanks to generous support from **Joseph Chase Murphy**, an operating room in the Jules Stein Eye Institute is being equipped with an audiovisual recording system. This communication system enables surgical procedures to be recorded with sound onto DVD. Medical students, residents, fellows and visiting ophthalmologists will benefit greatly from this innovative approach to studying surgical techniques. Photos of the completed project will be featured in an upcoming issue of EYE.

If you would like to make a contribution to the Institute, you may do so by means of the remittance envelope included in this issue of EYE. For additional information, please call or write to the following:

Development Office
Jules Stein Eye Institute
100 Stein Plaza, UCLA
Box 957000
Los Angeles, California
90095-7000
(310) 206-6035
giving@jsei.ucla.edu

JSEI AFFILIATES PROGRAMS REPORT IMPRESSIVE RESULTS

The JSEI Affiliates, a network of volunteers, conducts diverse and far-reaching programs to promote vision education and patient care in schools and the Los Angeles community. We're proud to share the following updates from our most successful programs in 2005.

Preschool Vision Screening (PSVS)

Under the direction of Leonard Apt, MD, the PSVS program was evaluated and improved. The newly revised PSVS program was launched in May 2005. Volunteers, under the supervision of a retired optometrist, visit local preschools to screen 3½- to 5-year-old children. The team uses a variety of tests designed specifically for preschoolers to screen for simple refractive errors and eye muscle problems.

Number of children screened in May and June 2005: 129

Average number seen per session: 22

Number of children referred to physician for further examination: 2 or 1.5% of all children screened

Number of participating volunteers: 20, including two retired optometrists

VISION In-School

Volunteers visit 4th to 6th grade classrooms presenting a fun, interactive program that covers eye anatomy, eye problems, and emphasizes eye safety and injury prevention in hopes of inspiring children to protect their precious gift of vision. The presentation includes the dissection of a bovine's eye. In the U.S., eye injuries are the leading cause of blindness in children.

Number of presentations during past season, February to May 2005: 14

Number of participating children: 431

Number of participating volunteers: 16

Shared Vision

The Affiliates Shared Vision program collects and recycles donated eyeglasses for those in need. Most of the glasses are donated to clinic missions in Mexico and other developing nations. Many are distributed to JSEI faculty and staff members who travel abroad to conduct specialized clinics, and some of the glasses, especially pediatric frames, are utilized by the Jules Stein Eye Institute's own Mobile Eye Clinic that conducts vision screenings in low income areas throughout Southern California.

Number of eyeglasses collected from January through September 2005: 1,500

Vision Screenings: Camp Planet Hope and Big Sunday

Camp Planet Hope

This Camp provides a five-day summer camp experience for children from various shelters. On the Camp's "Health Fair Day," JSEI Affiliates volunteers provided vision screenings to the children.

Number of children screened: 102

Number of children receiving further examination from volunteer MDs: 5 or 5% of all children screened

Number of participating Affiliates volunteers including two MDs: 11

Big Sunday

On Sunday, May 15, 2005, the JSEI Affiliates successfully participated in "Big Sunday," a citywide day of philanthropy benefiting the people of Los Angeles. UCLA's Mobile Eye Clinic, assisted by the JSEI Affiliates, conducted free vision screenings for those in need.

Number of patients screened: 65

Number of participating Affiliates volunteers including two bilingual volunteers: 7



Volunteers from the UCLA chapter of Delta Gamma sorority collect donated eyeglasses as part of a recent Shared Vision collection drive.



Retired optometrist and Affiliates volunteer, Dr. Louis Rosenberg screens a preschool patient.



Volunteer Ned Van Eps, PhD, conducts a dissection of a bovine eye—a favorite part of the VISION In-School anatomy curriculum.

JSEI AFFILIATES CELEBRATE HEALTHY VISION AND MOTHERS IN MAY

The JSEI Affiliates celebrated Mothers Day 2005 by hosting their second annual *Make Surgery Bearable* Ice Cream Social at the UCLA Medical Center's Café Med on May 2, 2005. Over 100 individuals visited the Affiliates booth to sponsor a Dr Teddy MD in honor of their mother, grandmother or special someone, and received free ice cream. Patient literature focusing on vision rehabilitation and low vision aids was also on hand in celebration of "Healthy Vision Month."

The Affiliates sent a special Mothers Day tribute card to "Mom" and the Dr Teddy MD was later given to a child undergoing surgery at the Jules Stein Eye Institute in this person's honor.

All proceeds from the event benefited the *Make Surgery Bearable* program to ensure that future bears would be available for children having surgery at JSEI. To learn more about the JSEI Affiliates and our *Make Surgery Bearable* program, please visit our web site at <http://www.jseiaffiliates.com> or contact us at (310) 825-4148.



Ice Cream Social volunteers (from left, back row) Marcia Lloyd, Maude Feil, Kimberly Eremic, Teresa Closson, and (front row) Jill Salisbury and Tracey Tatkun set up for the day's events. The Affiliates sold over one hundred sponsorships throughout the day and helped raise awareness about the *Make Surgery Bearable* program.

Special Events & Activities

AND THE FESTIVITIES CONTINUE...

This year's combined Annual Clinical and Research Seminar and Graduation Ceremonies offered ample opportunity for JSEI alumni, faculty, fellows and residents to celebrate.



From left, clinical instructor and former international fellow Dr. Federico Velez (Pediatric Ophthalmology and Strabismus, from Columbia) congratulates graduating international fellows Drs. Federico Badala (Glaucoma, from Italy), Alejandra Tartara (Uveitis, from Argentina), Hector Fontana (Glaucoma, from Argentina), and Eleftherios Anastasopoulos (Glaucoma, from Greece).



Resident alumni gather for a photo during lunch at the Annual Seminar: (left to right) Drs. Ben Glasgow ('91), Jim Shuler ('90), Larry Roer ('91), Don Kikkawa ('91), Nancy Wang ('91), Steve Schwartz ('92), JillAnne McCarty ('92), Martin Friedlander ('89), Laurie McCall ('90), and Kevin Miller ('91).



From left, Drs. George Rajacich (Resident '83), Joann Giaconi (Fellow '04) and Doreen Fazio (Resident '82) enjoy cocktails and live music at the post-seminar reception.



Former Neuro-Ophthalmology Division chief Dr. Robert Hepler (right, Resident '65) catches up with dedicated volunteer clinical faculty members Drs. Roger Sorenson (left) who was awarded the Irvine Prize in 2000 and Richard Hulquist, two-time recipient of the Volunteer Faculty Teaching Award.

IMPORTANT JSEI PHONE NUMBERS

PATIENT CARE

| | |
|---|----------------|
| JSEI Ophthalmology Referral Service | (310) 825-5000 |
| JSEI Ophthalmology Emergency Service | (310) 825-3090 |
| after hours | (310) 825-2111 |
| JSEI Specialty Areas: | |
| Aesthetic Eye and Facial Surgery | (310) 794-9341 |
| Contact Lens Service | (310) 206-6351 |
| Cornea-External Ocular Disease & Uveitis | (310) 206-7202 |
| Glaucoma | (310) 794-9442 |
| Neuro-Ophthalmology | (310) 825-4344 |
| Pediatric Ophthalmology and Strabismus | (310) 825-5000 |
| Refractive Surgery (Custom LASIK, Custom NearVision CK) | (310) 825-2737 |
| Retina | (310) 825-5000 |

FUND RAISING AND OUTREACH

| | |
|-------------------------|----------------|
| JSEI Development Office | (310) 206-6035 |
| JSEI Affiliates | (310) 825-4148 |

EYE

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Address Correction Requested JS-85

