The Jules Stein Eye Institute (JSEI) is a comprehensive eye care center dedicated to the preservation and restoration of vision worldwide. Innovative scientific achievements, exemplary patient care, and high-quality training and education of doctors are daily priorities. To maintain and further a leadership role in these pursuits, JSEI relies on a strong tradition of private philanthropy to nurture its multifaceted programs. It is this extra measure of support that has helped to make JSEI the number one eye care center in the western United States for more than a decade.

The planned construction of the Edie and Lew Wasserman Eye Research Center has made it possible to create new programs that will further JSEI’s clinical and research initiatives. The Comprehensive Cataract Center is one such effort, building upon the accomplishments of cataract specialists Kevin M. Miller, M.D., and Joseph Horwitz, Ph.D., who are already working on the front lines of this common disease. The Comprehensive Cataract Center is an optimal environment for these faculty members to develop a synergistic, three-pillared program of patient care, research, and education, utilizing advanced equipment and 21st-century facilities.

Bartly J. Mondino, M.D., Director of the Jules Stein Eye Institute: “The Edie and Lew Wasserman Eye Research Center will have an enormous impact on the Institute. Not only will it expand our existing facilities and programs, but it will enable us to create revolutionary new programs … that will dramatically change the way we treat patients with eye diseases.”

Edie and the late Lew Wasserman have played pivotal roles throughout the history of JSEI. The new Wasserman Center will make possible the expansion of synergistic programs within JSEI and the David Geffen School of Medicine at UCLA.
Cataract, a clouding of the normally transparent crystalline lens of the eye, is a leading cause of blindness throughout the world. Cataract may develop for a variety of reasons, most notably as a consequence of aging. Currently, corrective surgery is the only treatment. New, cost-effective surgical and nonsurgical approaches are necessary to create alternatives and improve the care of patients with cataract, especially in nations with limited resources.

With major support from the National Eye Institute, vision scientist Dr. Joseph Horwitz led a major breakthrough in cataract research in 1992 by discovering that alpha-crystallin, an important structural component of the lens, has the capacity to slow down and suppress the deterioration of proteins. In 1998, in collaboration with other UCLA scientists, he spearheaded another advancement in elucidating the molecular structure of alpha-crystallin. To encourage this research, a Senior Scientific Investigator Award was given to Dr. Horwitz by Research to Prevent Blindness. It is through this work and that of other basic scientists at JSEI that exciting, new therapies are possible.

In his ophthalmology practice, Dr. Kevin M. Miller pursues new techniques and devices that result in improvements in cataract surgery and patient outcomes. He received a grant from Alcon Laboratories to conduct a clinical study of a newly developed astigmatism-correcting intraocular lens. It is hoped that this device, which is implanted during cataract surgery, will reduce the postoperative need for additional surgery and/or refractive devices (contact lenses or eyeglasses). JSEI is one of a few sites in the country involved in this research. Such opportunities come to the top eye institutes because they are staffed by physicians with long-standing reputations for innovation and clinical excellence.

To continue this kind of emerging basic science and clinical research, it is essential to combine a vigorous educational and scientific environment with state-of-the-art facilities and highly accomplished faculty and staff. Competitive grants provide the underpinning for this work, but they are not enough to keep pace with the swiftly evolving field of vision science in which knowledge doubles every 10 years.

Your generous financial support of the Comprehensive Cataract Center at JSEI will be greatly appreciated. Response cards are available upon request.
KEVIN M. MILLER, M.D.
Professor of Clinical Ophthalmology

Dr. Miller is a clinical scientist. He performs research that leads to improved surgical outcomes for patients with cataracts. By applying his knowledge of refractive surgery to eyes with cataracts, he achieves the best attainable refractive outcomes. He participates in clinical trials of new devices, drugs, and implants, and assists industry in guiding products through the FDA approval process to bring them to market in the United States. In addition, he studies the surgical outcomes of patients with complicated ocular histories, such as those with vision in only one eye and those with previous retinal surgery.

Education
1977-1981 .......... Johns Hopkins University, Whiting School of Engineering
                 Baltimore, Maryland
                 Bachelor of Science in Electrical Engineering (B.S.)

1981-1985 .......... Johns Hopkins University School of Medicine
                 Baltimore, Maryland
                 Doctor of Medicine (M.D.)

Postdoctoral Training
1985-1986 .......... Franklin Square Hospital Center
                 Baltimore, Maryland
                 Internship in Internal Medicine

1986-1988 .......... Johns Hopkins University School of Medicine
                 Department of Ophthalmology, Wilmer Eye Institute
                 Baltimore, Maryland
                 Fellowship in Ophthalmic Optics

1988-1991 .......... University of California, Los Angeles, School of Medicine
                 Department of Ophthalmology, Jules Stein Eye Institute
                 Los Angeles, California
                 Residency in Ophthalmology
Research Interests

Dr. Miller is investigating techniques and instruments for improving the visual and refractive outcomes of small-incision cataract surgery. He has described several operative techniques for improving the efficiency and safety of cataract surgery, including maneuvers for handling small pupils and subincisional cortex. To reduce pre-existing corneal astigmatism at the time of cataract surgery, he developed and validated a novel surgical approach. Moreover, he studied the implantation of toric intraocular lenses as an alternative method for reducing pre-existing astigmatism. Currently, he is working on statistical methods for comparing astigmatism changes from different treatment groups. Dr. Miller published the first study of visual and surgical outcomes of cataract surgery in functionally one-eyed patients; reported the outcomes of cataract surgery following posterior segment surgery and detachment repair; and studied the pressure response of normal and glaucomatous eyes to cataract surgery.

Recent Publications


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*Dr. Miller (left) and Professor Dennis Lam (right) from Hong Kong performed surgery in mainland China that was broadcast to an adjacent auditorium.*
JOSEPH HORWITZ, PH.D.
Professor of Ophthalmology

As a basic scientist, Dr. Horwitz studies the biochemical and genetic processes that govern the behavior of the eye in health and disease. For much of his career, he has investigated the human lens, a simple yet remarkably elegant and vitally important structure within the eye. His laboratory has determined the molecular functions of several key proteins within lens cells. These findings have greatly increased the understanding of the transparency of the lens in health and its opacification in disease. Applications of this basic science knowledge may some day make it possible to develop nonsurgical interventions for cataract.

Education
1965 ................... University of California, Los Angeles
Los Angeles, California
Bachelor of Science in Physics (B.S.)

1970 ................... University of California, Los Angeles
Los Angeles, California
Doctor of Philosophy in Biophysics (Ph.D.)

Postgraduate Training
1970-1971 .......... University of California, Los Angeles
Laboratory of Nuclear Medicine and Radiation Biology
Los Angeles, California
Postgraduate Research Fellow

Research Interests
Dr. Horwitz is conducting research on the biochemical and biophysical properties of normal and cataractous lens proteins. In his laboratory, techniques have been developed for the microdissection of single human cataractous lenses and for separating, with the aid of a microscope, opaque areas and adjacent normal areas. The cataractous and normal lens sections are then studied with the aid of a high-performance liquid chromatography system that separates chemical substances. This work is providing valuable information about the lens proteins, and contributing directly to understanding the processes involved in the development of cataracts. In addition, Dr. Horwitz is investigating the molecular chaperone properties of alpha-crystallin, a protein that plays an important role in keeping the lens clear during normal aging.
Recent Publications


Dr. Horwitz and Dr. Quing-Ling Huang examine proteins from a cataractous lens.
To continue as a leader in the medical community, JSEI has found it essential to maintain a vigorous educational and scientific environment. With state-of-the-art facilities, JSEI is able to attract renowned faculty who distinguish UCLA as one of the nation’s top eye care centers.

Drs. Miller and Horwitz train medical students, residents, and fellows in clinical ophthalmology and vision science research. Their programs have trained some of the best clinician-scientists currently working in ophthalmology in the United States and abroad.

International Fellowship in Cataract Research

Under the direction of Dr. Miller, this one-year fellowship promotes and encourages research and educational interaction with ophthalmology institutions throughout the world. International fellows return home with the highest level of professional training and, in turn, mentor others in academic settings in their home countries. Many fellows trained at JSEI become undisputed leaders in their professions.

Dr. Miller performs eye surgery, while an international fellow observes through the operating microscope.

International Fellows in Cataract Research

- Yaroslav O. Grusha, M.D. 1995-1996 Moscow, Russia
- Chakree Hirunpat, M.D. 2001-2002 Hat Yai, Thailand
- Jin Zhongqiu, M.D. 2001-2002 Wuhan, Peoples Republic of China
- Marcela C. Lopes Palmberg, M.D. 2001-2003 São Paulo, Brazil
- J. Alvin L. Agustin, M.D. 1999-2000 Quezon City, Philippines
- Yaroslav O. Grusha, M.D. 1995-1996 Moscow, Russia
- Chakree Hirunpat, M.D. 2001-2002 Hat Yai, Thailand
- Jin Zhongqiu, M.D. 2001-2002 Wuhan, Peoples Republic of China
- Marcela C. Lopes Palmberg, M.D. 2001-2003 São Paulo, Brazil
- J. Alvin L. Agustin, M.D. 1999-2000 Quezon City, Philippines
Fellowship in Comprehensive Ophthalmology
Under the direction of Dr. Miller, this one-year fellowship prepares graduates of residency training programs for careers in academic comprehensive ophthalmology, emphasizing the latest techniques in cataract surgery and combined cataract-refractive surgery.

Postdoctoral Program in Lens Research
Dr. Horwitz's students work closely with him in the laboratory, helping to develop breakthroughs in eye research. These future vision scientists go on to academic or industry careers, advancing their fields for decades to come.
Giving Opportunities at the

A strong tradition of philanthropy from private sources has nurtured vision science research, education, and patient care to their present levels of international prominence at JSEI. The future of the Comprehensive Cataract Center and its endeavors depend more than ever on the philanthropic investments of individuals, foundations, and corporations. With the strength of private partners like you, the Comprehensive Cataract Center’s continued excellence will be ensured.

There are many opportunities to fund important clinical and scientific initiatives. Gifts may be unrestricted or may target specific needs, and major contributions and endowments are payable over five years. Support in any amount can help fund worthy projects, underwrite faculty and trainees, or purchase state-of-the-art equipment.

Please contact the Development Office at 310-206-6035 or visit our Website at www.jsei.org for more information. Donor envelopes are available from our clinical staff. Thank you for your consideration and support.

**Endowment Opportunities**

A gift for endowment demonstrates a long-term commitment to JSEI. An endowment is a fund that is maintained in perpetuity. Only a portion of the annual investment return is used for the purposes specified by the donor; the rest of the investment yield is returned to principal. Thus, over the years, the fund can grow and keep pace with inflation. Such endowments, which typically bear the name of the donor or donors, serve as an enduring testament of their generosity.

**Endowed Chairs**

Minimum Gift: $500,000

Endowed chairs attract scholars of distinction or retain gifted faculty whose teaching and research best exemplify JSEI’s mission. Endowment earnings provide support for research and teaching, as well as the freedom to explore new avenues of investigation.

**Endowed Fellowships**

Minimum Gift: $500,000

Endowed fellowships help the Comprehensive Cataract Center recruit and train the most gifted clinicians and researchers from the United States and abroad. The JSEI experience with fellowship programs is that former trainees become leaders in their professions.

**Continuing Medical Education Endowment**

$100,000 to 350,000

The Comprehensive Cataract Center holds conferences and lectures to provide continuing medical education in cataract and lens disorders for the global vision science community. Sponsorship of visiting professors and lecturers helps the Center achieve its educational goals.

**Endowed Cataract Research Fund**

$100,000 to 350,000

Endowed research funds support new and innovative investigations in the field of cataract research.
Comprehensive Cataract Center

Major Gift Opportunities
A major gift to JSEI is an investment in the future for millions of people who suffer from debilitating eye disease. The Institute accomplishes its mission to preserve sight and prevent blindness by fostering the scientific projects and humanistic programs that best serve the community and contribute to the advancement of ophthalmology worldwide.

Advanced Technology Research Equipment Fund
Scientific instrumentation is usually expensive, and it often has a limited useful life span. Reserve funds must be available for the immediate purchase of requisite equipment to ensure that research continues uninterrupted as new technologies emerge.

Cataract Research Laboratory
This laboratory will be dedicated to investigating the causes of cataract and developing effective strategies for slowing or preventing its progression. A main goal is to discover an inexpensive, nonsurgical approach to cataract treatment. Such a breakthrough will have an enormous impact on reducing blindness throughout the world.

Continuing Medical Education Fund
The Comprehensive Cataract Center holds conferences and lectures for the global vision science community. Major gifts to this fund will offset the cost of bringing invited speakers to JSEI for lectures, courses, and workshops.

Fellowship Support Fund
Contributions for fellowships will underwrite the activities of a clinical or research scientist specializing in cataract evaluation and management.

Cataract Research Fund
Donations to this fund will support designated research activities in the Comprehensive Cataract Center at JSEI.

Before

After

Corneal topography testing shows astigmatism before and after cataract surgery.
Other Giving Opportunities

Other Opportunities

Any gift to JSEI is a gift of sight. Every year, millions of people are diagnosed with debilitating diseases of the eye. And, every year, extraordinary breakthroughs in the diagnosis and treatment of these diseases are made here at JSEI. The mission to preserve sight and prevent blindness is achieved by extending the scientific projects and humanistic programs that best serve the community and contribute to the advancement of ophthalmology worldwide.

**Advanced Technology Fund**
Minimum Gift: $2,000
This fund provides the Comprehensive Cataract Center with the resources to pursue equipment-intensive and scientifically worthy projects with minimal start-up time.

**Computer Fund**
Minimum Gift: $1,000
Computer equipment used in office and research settings rapidly becomes obsolete because of the rapid pace of evolution in the computer and peripherals industry. This fund is used to keep the equipment both current and one step ahead.

**Clinical Trials Fund**
Minimum Gift: $1,000
Clinical trials are the vehicle by which therapies conceived in the laboratory are translated into clinical practice. Sponsors generally cover only part of the costs of conducting trials, which include coordinator and research associate salaries, FDA and Institutional Review Board submissions and re-submissions, data analysis, and paper writing following completion of a study. This fund helps defray the expenses of conducting clinical trials.

**Audiovisual Resources Fund**
Minimum Gift: $500
The education of patients; the training of medical students, residents, and fellows; and the continuing education of ophthalmologists in practice are based increasingly on digital audiovisual media. This fund helps to underwrite equipment purchases and obtain the human resources necessary to take audiovisual projects from conception to completion.

**Visiting Speakers Program Fund**
Minimum Gift: $100
Moneys for this program help the Comprehensive Cataract Center underwrite the costs associated with inviting guests to JSEI for special lectures, courses, and teaching programs.

**Comprehensive Cataract Center Travel Fund**
Minimum Gift: $100
This fund helps offset the travel expenses of faculty researchers who attend meetings nationally and internationally to present findings of their investigations and share concepts and skills.
Please support the Comprehensive Cataract Center any way you can. Response cards are available upon request.

Jules Stein Eye Institute

100 Stein Plaza, UCLA • Los Angeles • CA 90095-7000

Please call the Development Office at 310.206.6035

www.jsei.org