



Volume 9, No. 2 • Fall/Winter 2010

enVISION

News from the UC Davis Health System Eye Center



STEM CELL RESEARCH

UC Davis
Eye Center

MASTERING THE ART OF VISION RESTORATION



UC Davis Eye Center Optical Shop



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There's more to finding the right pair of glasses
than just filling your prescription

The right *style*

Contents



06

- 05 **From the Chair's Desk**
The Science of Stem Cell Therapy at UC Davis Eye Center

- 06 **Claire Pomeroy, M.D., M.B.A.**
Advancing The Health of Society

- 09 **Volunteer Clinical Faculty**

- 10 **UC Davis Eye Team**

- 16 **Dr. Schwab Retires**
Ivan Schwab, M.D., Retires... But Not Quite

- 18 **Larry Hjelmeland, Ph.D.**
Vision Researcher Larry Hjelmeland Sees Things Differently

- 20 **Stem Cell Dialogues**
Park Gives New Hope Message to Patients with Retinal Diseases

- 22 **ORBIS**
The UC Davis Eye Center and ORBIS International

- 26 **Mary Tasker, M.D.**
The Legacy of Mary Beth Tasker

- 28 **Denise Satterfield, M.D.**
UCD Alumna with a Passion for Giving Sight to Children

- 31 **Jerry Suran, and Helen Singer Suran**
Surans Support Eye Center Stem Cell Research



16



20



26

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www.ucdmc.ucdavis.edu/eyecenter
or call (916) 734-6435.

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Vision

Our vision is to be the world's transformational leader in collaborative vision research and in the development of cures for blinding eye disease from cornea to cortex.

Mission

We will realize our vision through pioneering collaborative vision research, providing state-of-the-art, world-class eye care, and training superbly prepared ophthalmologists and vision scientists.

Thank You!

The faculty of the UC Davis Health System Eye Center is deeply grateful to the following Federal Government agencies:

**The National Institutes of Health
The National Eye Institute
The National Institute on Aging**

and

Research to Prevent Blindness, Inc.

for their long-time and major funding of ophthalmology research at UC Davis.

Directory

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UC Davis Eye Center Optical Shop

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The Science of Stem Cell Therapy at UC Davis Eye Center

This is an exciting time to be an ophthalmologist. New therapies, both medical and surgical, are emerging with unprecedented frequency—treatments that offer hope in diseases that, only a half-decade ago, we were at a loss to manage. Novel technologies in the operating room employing a new generation of lasers, endoscopic devices, transplant technologies, and remarkable implants have brought ophthalmic surgery to new heights of accomplishment.

For the established ophthalmologist, it is a time for us to renew ourselves by learning ever new ways of helping our patients; and for the residents and those just beginning in practice, there is an amazing array of new therapies at our disposal. With all the issues that preoccupy medicine today—the problems of health care delivery, failing reimbursement and the undervaluation of our services, a hostile medico-legal atmosphere, and repeated challenges from paramedical practitioners—never has there been a more exciting time to be an eye physician and surgeon.

Of course, one of the most exciting and talked about applications in ophthalmology is stem cell therapy. The notion that pluripotential cells could be directed to differentiate into replacement cells with specific functions has limitless possibilities, albeit, of course, many technical challenges.

Here at the Eye Center, in the context of UC Davis, we benefit from the Center for Regenerative Medicine, which has become a major focus of strategic research development. The eye is uniquely suited to stem cell therapy: Its surface is readily accessible and of manageable size; the intraocular space is small and can be directly visualized using an ophthalmoscope; and cell function is directly measurable in visual performance. Moreover, replacement of defective cells using stem cell technologies in the visual system can have a profound impact on the patient's quality of life.

Needless to say, we stand at the very beginning of the path in the development of stem cell-based therapies. But already, stem cell treatments are showing great promise in reconstruction of the injured or diseased ocular surface and in the replacement of retinal cells that have succumbed to inherited diseases or macular degeneration. For the young clinician-scientist, this is an area of limitless potential for translating science into new treatments. For the patient, it is the path of hope.

Here at the Eye Center, our clinicians and researchers are collaborating to translate stem cell therapies from the laboratory into the clinic. We hope that you share our excitement and our commitment to this effort.



Mark J. Mannis, M.D., Professor and Chair





Each morning, Claire Pomeroy parks her Prius next to the Education Building on the sparkling medical campus of UC Davis Health System as she ponders the challenges that the day will surely bring to the Vice Chancellor of Health Affairs and Dean of the School of Medicine. Managing a leviathan that encompasses the medical school, a research complex on both the Sacramento and Davis campuses, the hospital and clinics, and 10,400 employees (faculty, residents, fellows, students, and staff) would be a daunting prospect for almost anyone. But the diminutive

Pomeroy engages the task with both enthusiasm and authority, clearly focused on a vision of what UCD can be for Sacramento, the region, the nation and the world.

Born in Cambridge, Massachusetts, Pomeroy grew up in New York and Michigan. She attended the University of Michigan both as an undergraduate and for medical school, and then went to the University of Minnesota for a residency in internal medicine. She developed a clinical interest in eating disorders and also took a fellowship in Infectious Disease that coincided with the beginning of the HIV

epidemic, a development that would channel her interests for several years. Her next professional stop was a move to the University of Kentucky in Lexington to be head of the Infectious Disease program. Ultimately, she served that university as Assistant Dean for Clinical Affairs and as Associate Dean for Research and Informatics.

Joe Silva, former Dean of the UC Davis School of Medicine, had been in search of an Executive Associate Dean, and in 2003 he recruited Pomeroy, who, interestingly, had been his medical student advisee at the University of Michigan. At UC Davis, Pomeroy immediately made an impression as a “take charge” leader. When Dr. Silva retired after an impressive record as Dean, the faculty conducted a national search but soon realized that the prize was right here. In 2005, Pomeroy was appointed Dean of the School of Medicine and Vice Chancellor of Health Affairs with the confident support of the faculty.

Pomeroy’s values have been targeted on social justice—an emphasis that, perhaps, grew from her own childhood experience growing up in a series of foster homes. Her personal history not only cultivated her independence and self-reliance

but left her with a special passion for helping individuals from dysfunctional family situations that could seriously disadvantage them. A special project for her here in Sacramento has been the Guardian Scholars Program that provides a support system for aged-out foster kids who otherwise would have none of the tools needed to move along in the educational system.

In 1990, Claire Pomeroy met her husband-to-be, William Preston Robertson, on a blind date in Minneapolis. Bill is an independent film writer who specializes in documentaries and works from their midtown home where they live with their adopted cocker spaniel, Zoë. When not wrestling with the issues of the Health System, Pomeroy is an avid reader of mystery novels, an enthusiastic movie go-er, and a devoted world traveler, visiting China, Bali, and the Galapagos Islands this past year.

Six years into her tenure as Vice Chancellor, Claire Pomeroy ponders an answer to the question, “What do you see as your most significant accomplishment at UCD?”

Without hesitation, she answers: “I have watched the UCD Health System flourish and become more confident of

its role in society and its impact on our region and the world”. She points out that attesting to this is the dramatic growth in research funding, the quality of the medical students, the establishment of the Betty Irene Moore School of Nursing, and the increasing array of awards that are being garnered by both faculty and students.

“We are now viewed as a leading institution in academic health by both the local community as well as nationally”, she points out.

And through the daily barrage of financial, legal, strategic, social and community issues, Pomeroy maintains her vision with laser focus: to make the UC Davis Health System the leader in advancing the health of society—a task that, she insists, “will involve transforming the way we do almost everything!”

“Five years from now, I want people to see that UCDHS led the way to better outcomes for patients and with many fewer health disparities.” This goal infuses every major decision that she makes.

And what of a new Eye Center Building—the dream of the Department at UCD since well before Pomeroy joined the

institution? “Neuroscience is one of the major strategic foci of our institution”, she points out, “and the Eye Center is a key element of that focus. Quality of life is clearly deeply influenced by visual health.” Pomeroy sees the Eye Center as an important component of the health care program at UCD and is the key to the training of the next generation of practitioners. “The importance of the Eye Center is that it encompasses all four of our missions: high quality health care delivery, teaching, cutting-edge research, and service to our community.”

And so, as dusk settles and the Education Building has mostly emptied, Claire Pomeroy, frequently the last one out of the building, heads home to midtown for the simpler demands of Bill and Zoë. Of course, she knows that tomorrow will bring new issues and new opportunities to make UCDHS one of the great health systems of the nation.

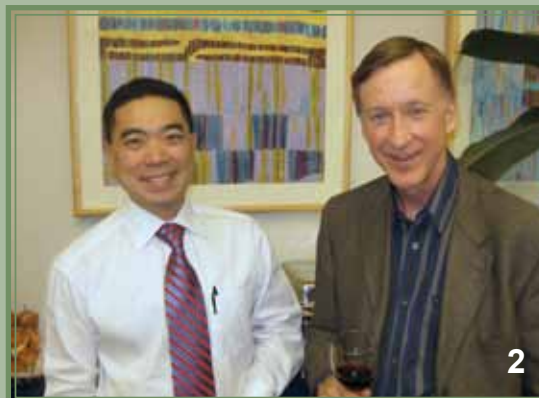
Volunteer Clinical Faculty



The Eye Center is very fortunate indeed to be able to rely on the volunteer services of twenty-two ophthalmologists who lend their expertise and energies to the training of the next generation of UC Davis ophthalmologists. These physicians in various private practice specialties gather annually to review important developments and plans for the next year's training program. Pictured right at the 2010 meeting held on September 21, 2010 are (clockwise from upper left): 1) Dr. Mannis leads the meeting. 2) Dr. David Kira, Medical Vision Technology, Davis, CA, and Dr. Morse. 3) Drs. Schwab, Mannis, and Morse with Dr. Denise Satterfield, Sacramento, CA. 4) Dr. Ronald Cole, Medical Vision Technology, Davis, CA, Dr. Mannis and Dr. Daniel Lee, Turlock Eye Physicians Medical Group, Turlock, CA.



1



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3



4

VCF Members

Barbara J. Arnold, M.D.
Amin Ashrafzadeh, M.D.
Kevin A. Beadles, M.D.
Craig E. Berris, M.D.
John Canzano, M.D.
David Chu, M.D.
Ronald J. Cole, M.D.
Byron Demorest, M.D.
(Emeritus)
Tyrone Glover, M.D.
Daniel M. King, M.D.
Daniel Lee, M.D.
Philip L. Levy, M.D.
Robert B. Miller, M.D.
Robert E. Nasser, M.D.
Jonathan P. Perlman, M.D.
James B. Ruben, M.D.
Denise Satterfield, M.D.
Mithlesh C. Sharma, M.D.
Francis J. Sousa, M.D.

Ernest F. Tark, M.D.
Tiffany Wong, M.D.
John H. Zeiter, M.D.



Professor and Chair

Mark J. Mannis, M.D., F.A.C.S.

Direct, Cornea Service

Research Interests: Corneal Transplant Technology, Eye & Skin Diseases, & Artificial Corneas

Ophthalmologists



Duva J. Appleman, M.D.

Assistant Professor, Glaucoma, Veterans Administration, Mather.

Research Interests: New techniques for glaucoma treatment.



Annie K. Baik, M.D.

Assistant Clinical Professor, Glaucoma Service.

Research Interests: Emerging glaucoma surgical techniques, patient education.



James D. Brandt, M.D.

Professor, Glaucoma, Director, Glaucoma Service.

Research Interests: Nanotechnology for innovation in glaucoma treatments.



Jeffrey J. Caspar, M.D.

Clinical Professor, Comprehensive Ophthalmology and Refractive Surgery, Residency Program Director.

Research Interests: Improvement of techniques in cataract surgery.



Vahid Feiz, M.D.

Associate Professor, Cornea, External Disease and Refractive Surgery. Director, Refractive Surgery.

Research Interests: Topical antibiotics and bacterial flora.



Francisco J. Garcia-Ferrer, M.D.

Associate Professor, Cornea, External Disease and Refractive Surgery, Veterans Administration, Mather.

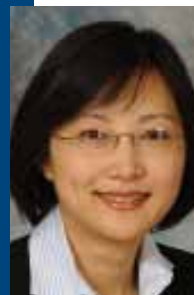
Research Interests: New technology for refractive surgery.



John L. Keltner, M.D.

Professor, Chair Emeritus Neuro-Ophthalmology, Research Director.

Research Interests: The effects of multiple sclerosis (MS) and cancer on vision.



Esther S. Kim, M.D.

Associate Clinical Professor, Comprehensive Ophthalmology, Director, Optometric Services.

Research Interests: Improvement of technology in cataract surgery.



Michele C. Lim, M.D.

Associate Professor, Glaucoma, Vice-Chair, Medical Director.

Research Interests: Drug delivery in glaucoma drops and patient compliance.



Lily Koo Lin, M.D.

Assistant Professor, Oculoplastic Surgery.

Research Interests: Improvement of aging eyelids.



Linda J. Margulies, M.D.

Clinical Professor, Vitreoretinal Disease, Veterans Administration, Martinez.

Research Interests: New treatment for age-related macular degeneration.



Lawrence S. Morse, M.D., Ph.D.

Professor, Vitreoretinal Surgery and Uveitis, Director, Retina Service.

Research Interests: Treatments for diabetic retinopathy, age-related macular degeneration and retinal degeneration.



Mary A. O'Hara, M.D., F.A.C.S., F.C.A.P.
 Professor,
 Pediatric Ophthalmology.
Research Interests: Development of new technology in pediatric strabismus.



Susanna S. Park, M.D., Ph.D.
 Professor, Vitreoretinal Surgery.
Research Interests: Proton beam treatments for age-related macular degeneration, anti-VEGF treatment for age-related macular degeneration, retinal imaging and stem cell therapies for age-related macular degeneration.



Alan M. Roth, M.D.
 Professor Emeritus.
Research Interests: Ophthalmic pathology, eye pathology.



Ivan R. Schwab, M.D., F.A.C.S.
 Professor Emeritus, Cornea, External Disease and Uveitis.
Research Interests: Limbal stem cell transplants and comparative anatomy.



David G. Telander, M.D., Ph.D.
 Assistant Professor,
 Vitreoretinal Surgery.
Research Interests: Stem cell for age-related macular degeneration. VEGF immunology of retinal degeneration.

Optometrists



Thomas B. Barnes, O.D., M.S., F.A.A.O.
 Senior Optometrist



Melissa Barnett, O.D., F.A.A.O.
 Senior Optometrist



Brooke S. Chang, O.D.
 Senior Optometrist



Larissa Johnson-Tong,
O.D., F.A.A.O.
Senior Optometrist



Hai Tong, O.D., F.A.A.O.
Senior Optometrist



Kaaryn Pederson-Vanbuskirk,
O.D., F.A.A.O.
Senior Optometrist

Vision Scientists



Marie E. Burns, Ph.D.
Professor, Psychiatry
and Behavioral Sciences.
Director, Center for Visual
Sciences.
Research Interests: Physiology.



Mark S. Goldman, Ph.D.
Associate Professor, Neurobiology,
Physiology & Behavior.
Research Interests: Computer
models of eye movement.
[http://neuroscience.ucdavis.edu/
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Leonard M. Hjelmeland, Ph.D.
Professor, Biochemistry.
Research Interests: Epigenetics of
age-related macular degeneration.
[http://biosci3.ucdavis.edu/
FacultyAndResearch/FacultyProfile.
aspx?Researcherid=1339](http://biosci3.ucdavis.edu/FacultyAndResearch/FacultyProfile.aspx?Researcherid=1339)



Andrew T. Ishida, Ph.D.
Professor, Retinal
electrophysiology.
Research Interests: Light
adaptation, ganglion cell excitability,
ion channel modulation, retinal
immunohistochemistry.
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user/26](http://neuroscience.ucdavis.edu/user/26)



**Christopher J. Murphy, D.V.M.,
Ph.D.**
Professor, Comparative
Ophthalmology.
Research Interests: Bio-physical
cueing and modulation of cell
behaviors.



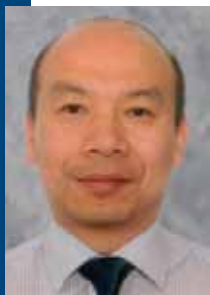
Charles E. Thirkill, Ph.D.
Adjunct Professor Emeritus,
Immunology & Biology.
Research Interests: Ocular
immunology, retinal and optic nerve
imaging techniques.



John S. Werner, Ph.D.
 Distinguished Professor, Visual Psychophysics.
Research Interests: Color and spatial vision, normal aging and age-related disease, retinal and optic nerve imaging.
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Robert J. Zawadzki, Ph.D.
 Assistant Researcher, High Resolution Retinal Imaging.
Research Interests: Retinal and optic nerve imaging techniques.
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Min Zhao, M.D., Ph.D.
 Professor, Dermatology.
Research Interests: The role of endogenous electric fields to stimulate cell migration, corneal wound healing and regeneration.

Residents



Eric Chin, M.D.
 First Year Resident
 Rosalind Franklin University of Medicine
 And Science



Bobeck Modjtahedi, M.D.
 First Year Resident
 University of CA Davis



Alena Reznik, M.D.
 First Year Resident
 Johns Hopkins University School
 of Medicine



Jennifer Rizzo, M.D.
 First Year Resident
 Boston University School of Medicine



Samuel Lee, M.D.
 Second Year Resident
 Loma Linda University School
 of Medicine



Kimberly Wings, M.D.
 Second Year Resident
 New York Medical College



Charles Weber, M.D.
 Second Year Resident
 Georgetown University



Danli Xing, M.D.
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Third Year Resident
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Christianna Stuber, M.D.
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Duke University School
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Clinical Glaucoma Fellow
Baylor College of Medicine



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David Geffen School of Medicine
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Suman Pilli, M.D.
Retinal Research Fellow
NTR University of Medical Sciences
Hyderabad, India



Saadia Rashid, M.D.
Clinical Retina Fellow
The Agakhan University Medical
College

Please visit us at: www.ucdmc.ucdavis.edu/eyecenter
to learn more about our department, faculty, and special events.

Dr. Schwab Retires

By Mark J. Mannis, M.D.



Ivan Schwab, M.D.



A renowned clinician, teacher, scholar and clinical researcher, Ivan Schwab, M.D., Professor of Ophthalmology and Director of the Cornea and External Disease Service here at the UC Davis Eye Center, has been my colleague and friend for some two decades. Although he continues to see Eye Center patients two days a week and to do research in comparative ophthalmology on a part-time basis, he retired as a full-time member of our Eye Center's clinical faculty on October 1, 2010. It is well that, as he enters this next phase of his career, we take this opportunity to recognize him for his many contributions

to UC Davis and to our profession.

Universally loved by his patients, students, residents and fellows, Ivan has received many accolades for his unique abilities as a teacher. As a speaker he has been invited as visiting professor at universities throughout the United States as well as internationally. His unique ability to connect ideas and circumstances that might not otherwise be thought of as related has marked him as an incomparably original thinker. This talent brought for him the prestigious IgNobel Prize in 2006 for which he delivered a

lecture on the ocular structures of the woodpecker...dressed, of course, as a woodpecker.

Dr. Schwab's most recent research has focused on the development and application of bio-engineered ocular surfaces for reconstruction and, as a second interest, studies in comparative ophthalmology. His work on the ocular surface has pioneered several new techniques upon which others have based their work. With over 150 peer reviewed publications, Dr. Schwab is respected as one of the nation's most erudite and knowledgeable scholars in

, Retires... But Not Quite



the field and was recently one of the Keynote Speakers at the World Cornea Congress in Boston. His most recent publications have focused on management of ocular surface disease and the potential for bio-engineered surface restoration. He is also the author / editor of two textbooks in ophthalmology. His current scholarly project, surely to be his “magnum opus”, is a treatise on the historical development of the visual system.

What does not appear in his curriculum vitae or even in the many recognitions he has received, is the fact that he

is simply one of the finest people in our field—a person of uncompromising integrity, intellectual honesty, kindness to all, a wry and mischievous sense of humor, a great heart, and a self-deprecating demeanor that completely belies his numerous accomplishments.

A friend and colleague, Gregory Skuta, Chair at the Dean McGee Eye Institute in Oklahoma, has said of Dr Schwab: “Ivan is a brilliant leader in our field and also one of the most inquisitive, interesting, and delightful individuals I have ever known. His broad range of knowledge

and interests is truly astounding; he is willing (even eager) to challenge the status quo and ask tough questions; and his loyalty to his patients, friends and colleagues, and the wonderful profession of medicine and ophthalmology is absolute and unwavering.”

Indeed, Ivan Schwab is a special individual, and both we as faculty, as well as our patients, owe him a great deal.

Thank you, Dr. Schwab. And bravo!



Larry Hjelmeland Sees Things Differently

Epigenetics is a word that most people don't know. However, Leonard Hjelmeland, Ph.D., Professor of Ophthalmology and Vision Science, UC Davis School of Medicine, is convinced that in the coming years, it will enter the routine vocabulary of scientists and public alike. Epigenetics is the study of how non-genetic factors (tobacco smoke, environmental chemicals, temperature, etc.) affect the expression of genetic information. And according to Dr. Hjelmeland, "My crusade in the eye research community has been to get people to fund and work on this area."

Dr. Hjelmeland enthuses that the new field of epigenetics will point the way to a much deeper understanding of the complexity of disease. While promoting new work in the field, Dr. Hjelmeland continues to vigorously pursue his research into Retinal Pigment Epithelium (RPE) cells and their application to the restoration of vision loss due to Age-related Macular Degeneration (AMD) and Retinitis Pigmentosa (RP).

Specifically, he has been working with a line of cells (these are NOT stem cells, he is quick to point out) that was discovered during a routine scan of human eye cells in

1986. These cells, identified as Aotaki RPE cells (named for his research assistant at the time), or ARPE-19 (the 19 refers to the age of the man from whom the cells were taken), emit a factor that appears to reverse AMD and RP damage. Although therapy involving these cells is still in early stages of development, Eye Center faculty members are actively involved in clinical trials to establish its efficacy.

Dr. Hjelmeland notes that his has not been a conventional career path beginning with his undergraduate days at Stanford University where he designed his own interdisciplinary major and enjoyed opportunities to learn from Nobel Prize laureates. After earning his doctorate (also interdisciplinary) from Stanford in 1976, he went to work for the National Institute of Health in Child Health and Human Development for ten years working on the "synthesis of new detergents for biochemistry". But by 1981 he had decided to "get more biological", and so he went to the National Eye Institute. It was during his five-year career at the NEI that he went totally blind due to the effects of undetected diabetic retinopathy. Undeterred, he persevered, coming to UC Davis in 1986 with a grant and lots of ideas.

Upon arriving at UC Davis, Dr. Hjelmeland's blindness indicated a new path, and he dedicated himself more strongly to administration and a role as someone who can "point the way". Since 1995, he has served in several capacities, including Associate Dean for Research as well as Chair of the Department of Biological Chemistry. He is currently a member of the UC Davis Center for Visual Sciences, an interdisciplinary group of vision scientists under the auspices of the UC Davis Eye Center.

Dr. Hjelmeland loves living in Davis with his wife, Mary Kay, is an avid cook and bridge fanatic, and in his spare time, he enjoys ballroom dancing and practicing yoga. Despite significant health issues over the years and an idiosyncratic career path, Dr. Hjelmeland's take on his life is overwhelmingly positive. "I am continuously amazed that things have worked out as well as they have."



Zjelka McBride, Ph.D.

By Susana Park, M.D., Ph.D.



Professor Susanna Park, M.D., Ph.D. presented a message at the July 28th, 2010, Stem Cell Dialogues Symposium that using stem cells to treat patients at UC Davis with retinal disease may be as close as just one or two steps away. Dr. Park, UC Davis Eye Center Professor of Ophthalmology and a member of the Eye Center's vitreo-retinal faculty, was one of the program's two featured speakers on the use of stem cells to treat hearing and vision loss. Her lecture, entitled, "Stem Cell Therapy for Treatment of Retinal Diseases: From Bench to Clinic" outlined

her research efforts and goals to bring autologous adult bone marrow-derived stem cell therapy from the laboratory bench to the clinics to treat patients with retinal diseases.

"Stem cells can potentially treat both retinal degenerative diseases, such as macular degeneration, and retinal vascular diseases, such as diabetic retinopathy," said Dr. Park. Both macular degeneration and diabetic retinopathy remain leading causes of irreversible blindness despite advances in therapy. "Adult patient's own stem

cells are much safer to use than embryonic stem cells and inducible stem cells. By using your own stem cells, you don't have to worry about rejection," said Dr. Park. "In fact, autologous adult bone marrow-derived stem cells have already been used to treat patients with acute myocardial infarct with some success. These cells appear to recognize blood vessels and tissue that have been damaged and help repair these cells and tissue."

In the case of retinal diseases, animal studies have already shown that adult stem cells

The Message to Patients with Retinal Diseases



injected into the eye get incorporated into damaged retinal blood vessels and the retina and appear to help repair. These cells show promise as therapy for diabetic retinopathy and macular degeneration.

“Here at the UC Davis Medical Center, we are poised to start stem cell therapy for our patients with retinal diseases.” The Center for Regenerative Cures, featuring a fully functioning GMP (Good Manufacturing Practice) laboratory, opened this past year. This laboratory is certified to manufacture stem cells that

are pure-enough and sterile-enough to be used for patient care. UC Davis is the first medical facility in northern California with such a facility.

Dr. Park is in the final phases of performing studies showing that there are no long-term side-effects of injecting adult bone-marrow derived stem cells in the eyes of mice with retinal vascular diseases. Once this study is completed, Dr. Park is optimistic that UC Davis will get approval from the Food and Drug Administration to start stem cell therapy to treat patients with retinal diseases.

Dr. Park Lecture:

Proton Beam Irradiation in Treating Ocular Tumors

- **Date:** April 8, 2011
- **Time:** 8 a.m.-10 a.m. (tentative)
- **Place:** UC Davis Cancer Center Auditorium (tentative)
- **For more information, please contact:** Shon Elmer (916) 734-6891
vashon.elmer@ucdmc.
ucdavis.edu

By James Brandt, M.D.

Citizens across much of the developed world are fortunate to have access to modern eye care at facilities like the UC Davis Eye Center. It is rare indeed for someone in Northern California to go blind from treatable diseases like cataract and glaucoma or eye infections like trachoma. Most of the world isn't so lucky – the World Health Organization estimates that about 40 million individuals around the world are blind from diseases that would be easily treated in the developed world (see table). This number will rise to over 75 million as world population and life expectancy increase. Over 90% of the world's blind live in the developing world.

There are many approaches to dealing with world blindness. Surgical camps across Africa and southern Asia can treat

hundreds of patients each day but this hardly makes a dent in countries where there is just one ophthalmologist per million citizens and the trip on foot from a village to a surgical camp takes a week or more.

Since 2007 the faculty of the UC Davis Eye Center have partnered with ORBIS International in their unique approach to the creation of self-sustaining eye care systems in the developing world. ORBIS began in the 1970s when Dr. David Paton, then the chair of Ophthalmology at Baylor College of Medicine, recognized that bringing teaching faculty to the developing world could jump-start a self-sustaining eye-care system. What was needed was a mobile teaching hospital.

In 1984, a used DC-8 donated by United Airlines was converted into the world's first Flying Eye Hospital. One of its first missions was to Malawi, where two ophthalmologists served a population of 7 million. ORBIS expanded its teaching program to include the 28 ophthalmology assistants and 12 nurses who played a major role in providing eye care services to the country's population. The 'capacity building' approach of ORBIS was born. ORBIS long-term projects are taking place in Bangladesh, China, Ethiopia, India, Vietnam, Peru and Jamaica. Additional projects are underway in many other countries around the globe. All projects are geared toward making a lasting impact and allowing activities to continue long after ORBIS assistance has ended.



Center and ORBIS International

In 1992, the current Flying Eye Hospital (a converted DC-10 widebody jet) took to the air for its first mission to Beijing, China. Since then the ORBIS DC-10 has clocked millions of miles in the air and hundreds of weeks on the ground throughout the world teaching surgery to ophthalmologists who then go on to teach local trainees and fellow ophthalmologists in the modern techniques of eye care and surgery that they learned aboard the aircraft.

In 2007, Dr. Mary O'Hara, Professor & Director of the UC Davis Eye Center's Pediatric Ophthalmology Service, traveled to Wuhan, China to teach pediatric ophthalmology techniques to local ophthalmologists. Dr. James

Brandt, Professor & Director of the Glaucoma Service, traveled to Ho Chi Minh City, Vietnam (2008), Trujillo, Peru (2009) and Jakarta, Indonesia (2010) to teach glaucoma techniques. Dr. Susanna Park, Professor and member of the UC Davis Eye Center's Retina Service, traveled to Trujillo, Peru in 2010 to teach treatments for diabetes, inflammation and age-related macular degeneration.

The UC Davis Eye Center's commitment to ORBIS will go on in coming years, with future missions planned for India and Bangladesh, and return missions to work once more with our partners in China, Vietnam and Peru.

For more information about

ORBIS, talk to your UC Davis Eye Center ophthalmologist and visit the ORBIS website at www.orbis.org.

Causes of World Blindness

(2002 WHO estimates)

- cataracts (47.9%)
- glaucoma (12.3%)
- age-related macular degeneration (8.7%)
- corneal opacity (5.1%)
- diabetic retinopathy (4.8%)
- childhood blindness (3.9%)
- trachoma (3.6%)
- onchocerciasis (0.8%)





(upper row, left to right) 1) Tania Paul, M.D., UC Davis Glaucoma Fellow, screening patients at the Cipto Mangunkusumo Hospital in Jakarta, Indonesia. **2)** Drs. Brandt, Baik & Park in front of the Flying Eye Hospital in Trujillo, Peru. **3)** Dr. Park with Patient. **4)** Dr. Park with Physician.

The Marvel that is ORBIS: My Visit to China

By Mary O'Hara, M.D.

It was late at night when our DC-10 touched down in Wuhan, China. Despite the hour, a driver was waiting for my daughter and me with a sign: Dr. Mary O'Hara and Ms. Maureen Lloyd. Welcome to China. A volunteer experience with ORBIS is always a logistical miracle and always presents a series of adventures. A charitable organization that draws on the talents of a multinational medical community, a highly resourceful staff and the generosity of the world to cure blindness is indeed a marvel. Year after year, around the world, this is what ORBIS does.

My particular task was to provide instruction in children's eye surgery to a group of eye surgeons with multiple levels of experience. Some of our "students" were brand new eye doctors barely out of school and others were very experienced surgeons who wished to learn the more advanced techniques. All wanted to learn how to better care for the eyes of the children of China. To paraphrase, they did not want us to come to their country and fish for them; they wished to learn how to fish. My week was filled with eye examinations, surgery, lectures,

one-on-one sessions and a little bit of sight-seeing with our Chinese colleagues. It has now been three years since my ORBIS trip to Wuhan, but I remain in contact with my Chinese friends. We discuss patients, research interests and our lives as they have changed since that fateful week. My daughter has gone on to medical school and credits her ORBIS experience with her decision to become an ophthalmologist. Perhaps someday I will accompany her when she goes on her first ORBIS trip as a visiting ophthalmologist.



Mary Tasker, M.D.

By Mark J. Mannis, M.D.



The Legacy of Mary



Mary Beth Tasker's smile was infectious. Everyone who knew her was warmed by it. An active member of our ophthalmic community for over 40 years and Sacramento's first female ophthalmologist, Mary was an unusual person with broad interests that ranged from medicine to the arts. Over the years, she provided wonderful service to her patients, was a devoted wife and mother, and actively participated in the teaching program at UC Davis. On her death, she left an endowment to the Eye Center to fund innovative research—her last gift to ophthalmology in the Sacramento region. Mary was born and raised in Platteville, Wisconsin. From early in life, she had a gift for music and was headed for a career in music when her younger sister convinced her to join her in medical school. The two sisters matriculated in the same class at the University of Wisconsin—a class in which there were, remarkably for the time, 39 women. She graduated in 1956 and made the decision to pursue ophthalmology as a surgical specialty that would allow her to manage patients of all ages. Residency was at the Long Beach VA Hospital in Los Angeles.

Mary's arrival in Sacramento in 1961 was occasioned by an invitation from the late Dick

Beth Tasker

Shannon, M.D. to work part-time in his practice. She later joined Norman Schwilk, M.D. as a business partner. Together, they purchased land at 50th and J Streets, built an office there, but had separate practices on the premises. And in the latter part of her career, she sold her practice to James Reece, M.D. and worked one day a week for him until she finally fully retired in 2006. Mary was, for much of her career, the only woman in the Sacramento ophthalmic community, but she held her own, and was proud to see other women become important practitioners in our community. Over the years, she was also a regular member of the volunteer clinical faculty at UCD, where she derived considerable satisfaction from teaching the residents and medical students.

Mary was also a devoted family woman. Her husband, Lawrence (d. 2007) worked as an engineer for Aerojet and later as a civilian engineer for the air force. Her three children—Diana (a biomedical engineer in Sacramento), Lawrence and Kenneth (both businessmen) remember her as “a very capable professional who, outside of the office, was a person with many

different interests. When not in the office, she was ‘in stealth mode’ about being a physician”, they pointed out.

Anyone who knew Mary, knew of her lifelong interest in music. She was a strong supporter of the classical music scene in the Capital City. Beginning in her first year in practice, she sang with the Sacramento Symphony Chorus, and in subsequent years with the Medichords (the Medical Auxiliary singing group), the River City Chorale, and the Sacramento Mastersingers. Mary felt strongly that her involvement in music and the arts enhanced her ability to relate to patients as a physician. The memorial service held for her earlier this year was, appropriately, a musical paean to a life dedicated both to healing and to beautiful music.

Although Mary lived her professional life as a private practitioner, she clearly understood the important role played by UC Davis in the Sacramento region. For many years, therefore, she taught the residents in the clinic and was a regular participant in Grand Rounds here at UCD.

Mary’s final gift to the university and to the

ophthalmic community was a bequest of \$100,000 to serve as an endowment to fund innovative ophthalmic research at UC Davis. With this gift, Mary Tasker, who passed away on October 2, 2009, leaves a legacy of generosity that will encourage creative innovation in ophthalmology and will echo the music of her career for years to come.

Mary Beth Tasker Fund

Contributions to the Mary Beth Tasker Fund can be made by sending checks made out to UC Regents and sent c/o Mr. Ernest Phinney, Development Office, UC Davis Eye Center, 4860 Y Street, Suite 2400, Sacramento, CA 95817.





Passion for Giving Sight to Children



The opportunity to observe an ophthalmic surgeon elegantly straightening the eyes of a cross-eyed child convinced Denise Satterfield, an R.N. at that time, that this was something that she wanted to do. That case set her career on course.

Born to a military family in Southern California, the older of two daughters, Denise initially set her sights on a career in nursing and got her associate degree in nursing (R.N.) at the University of Alaska. But she realized that she had aspirations to be a physician and, after completing a bachelor's degree in microbiology at UC San Diego in 1982 and working as an R.N. for four years, she was admitted to the School of Medicine at UC Davis. Realizing that ophthalmology was a competitive field, she undertook basic research during medical school, working on endothelial function in rabbits in the laboratory of Christina Kenney, M.D., Ph.D.

She graduated with the School of Medicine class of 1987 and, after an internship in pediatrics at UCDMC, she joined the UCD Department of Ophthalmology for residency. Consistent with her focus from the outset, after completing residency training in 1991, Dr. Satterfield joined the Smith-Kettlewell Eye Research

pediatric ophthalmology with Art Jampolsky, M.D. and Alan Scott, M.D. Her research there culminated in an important paper on the psychosocial aspects of strabismus.

Immediately after fellowship, she opened her practice here in Sacramento. Since then, Dr. Denise Satterfield has become one of Sacramento's premier pediatric specialists. She has enjoyed solo private practice largely because she can deliver very personal care and has the independence to make decisions about patient care, office management and personnel. She values the "personal touch" in patient care, and is currently recruiting for a practice partner.

Throughout her career, Denise has remained affiliated with the UCD Eye Center, serving continuously on the Volunteer Clinical Faculty. "I love being

involved with the residents, not only because I have something to teach them, but because I also learn from them." Satterfield teaches not only the UCD ophthalmology residents (commonly supplying food and wine in addition to her wealth of clinical experience), but also hosts family practice residents from the Sutter and Mercy programs in her office.

Denise is married to Dale Smith, M.D., her husband of 30 years. Dale is a urologist affiliated with the Woodland Clinic. They reside in Davis where they brought up their two daughters Megan (26) who is pursuing a career in gastronomy and Lindsey (24) who is working on her prerequisites for nursing school.

Denise has been a devoted UCD alumna, serving on the Alumni

Board of the medical school for eight years with two terms as board president. Her emphasis has been helping students target the right career goal.

Of the Eye Center, Satterfield points out: "The expertise in the department is tremendous, and the UCD Eye Center is a true resource for the community for help with difficult problems. I have always found the staff responsive to my needs as a referring physician."

Dr. Satterfield continues to find satisfaction in her practice and remains a proud graduate of UCD School of Medicine and the Eye Center, dedicated to maintaining and restoring the vision of children.



Surans Support Eye Center Stem Cell Research



By Ernest Phinney

Jerry Suran and Helen Singer Suran are almost newlyweds and philanthropy is clearly one of their most cherished activities. Jerry and his first wife, Elsie, had endowed chairs and research funds at both Syracuse University and UC Davis, and now Jerry and Helen are continuing that tradition of supporting the communities and institutions they care about.

Diagnosed with age-related macular degeneration, Helen Suran has been a patient of UC Davis Eye Center faculty member Dr. Susanna Park. Helen has also been a patient subject in the CATT study (Comparison of Age-related Macular Degeneration Treatment Trials) since November 2009. And so it was that when she and her new husband were considering their philanthropy in 2009, they chose to support Dr. Park's stem cell research. According to Mrs. Suran, "I'm glad to be a part of the study and to do anything I can to contribute to medical science. For some diseases, regenerative medicine is the only hope for a cure. I wish it could happen for AMD in my lifetime, but if not, there are certainly many people who may benefit from it in the future. If I can help, then I need to take an active participation."

Jerry Suran, holder of an



honorary doctorate from Syracuse University for the development of the first GE implantable cardiac pacemaker, and Senior Lecturer Emeritus in the Graduate School of Management and in the Department of Electrical & Computer Engineering at the University of California, Davis, is still actively involved with teaching at UC Davis at age 84. "It is one of my great pleasures, and teaching is one of the things (among many) that Helen and I have in common. She was a high-school Spanish teacher for many years in the Los Angeles City Schools and enjoyed teaching as much as I do."

Both Jerry and Helen were widowed after more than 50 years with their former spouses. Jerry reflects, "We had the same accountant and the same attorney here in Davis, but we had never met. Mutual friends introduced us."

In spite of having lost sight in one eye and some difficulty recognizing people's faces due to the AMD, Helen Suran has a very busy life. She is a great grandmother, and remains active in her family's life. She and Jerry spent an extended family Mexican vacation with Helen's children, grand children and great grand children in August. Helen is also an active member of her synagogue, and in many community activities, such as the University Farm Circle and the Friends of the Mondavi, and as a political activist in Davis, where she writes frequent letters to the editor of the Davis Enterprise and speaks out against anti-Semitism.

As Jerry Suran says, "Although I play golf, Helen has become my hobby. We're busy enjoying life."



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