

2011 SIGHT + SOUND

ANNUAL REPORT

A Year in Review from the Chairs



Department of Otolaryngology

The faculty in the Department of Otolaryngology has been very productive in research activities and leading discoveries and scientific advancements in the field of Otolaryngology.

Dr. Thanos Tzounopoulos has made a ground breaking discovery regarding the underlying cause of Tinnitus. Dr. Tzounopoulos' novel experimental approach has resolved why tinnitus-affected auditory centers show increased responsiveness. After administering a variety of agents that block specific excitatory and inhibitory receptors and seeing how the brain center responded, his team determined that blocking an inhibitory pathway that produces GABA, an inhibitory neurotransmitter, enhanced the response in the region surrounding the DCN in the control brain slices more so than it did in the tinnitus slices.

Furthermore, in conjunction with the UPMC Sleep Medicine Center, the Division of Sleep Surgery is currently participating in a clinical study involving a promising new therapy for treating patients with obstructive sleep apnea (OSA). OSA patients who have not responded to or cannot tolerate CPAP may be candidates for an implantable device that stimulates the hypoglossal nerve during sleep. Dr. Ryan Soose, the regions only Board Certified and Sleep Fellowship trained Otolaryngologist and Director of the Division of Sleep Surgery in the Department of Otolaryngology is 1 of 20 principal investigators in the world participating in this study.

The UPMC Department of Otolaryngology has established the Center for Robotic Head and Neck Surgery. Until recently, people with complex head and neck disorders had minimal options for surgical treatment. Traditional approaches often have left patients with visible scars, difficulty breathing or swallowing following surgery, and a lengthy recovery. At the UPMC Center for Robotic Head and Neck Surgery, surgeons are now able to treat these complex disorders using minimally invasive robotic

Department of Ophthalmology

We have had a busy and productive time at UPMC Eye Center, the Department of Ophthalmology of the University of Pittsburgh. We have been active in research, teaching, and patient care.

Our scientists have made important progress, particularly in glaucoma. Two different projects focusing on eye pressure in glaucoma have made headway. In one, Larry Kagemann, an engineer in the department, has developed a technique for mapping and measuring the channels used by fluid to get from inside the eye into the bloodstream. This non-invasive angiogram is performed using invisible light, and is completely safe, quick, and painless. With further development, Kagemann's work is likely to lead to changes in clinical practice, permitting surgical guidance for certain types of glaucoma operations and measurements that we will be able to do only with this new technology.

In a second project, Dr. Yiqin Du has isolated stem cells from the drain of the eye, the trabecular meshwork. This is the structure inside the eye just before the vessels being mapped by Kagemann. Du has shown that the cells that she discovered are indeed stem cells, important because they can be differentiated into the cells that naturally line the pathways leading from the eye. Du is working to show that she can introduce these cells into eyes with malfunctioning trabecular meshwork (damaged drains), and that the cells repair and regenerate working drainage tissue. This could normalize the eye pressure and treat the glaucoma. This sort of work has the potential to be revolutionary, given enough time and effort.

This work represents the efforts of scientists and engineers who interface with our Louis J. Fox Center for Vision Restoration. In other work, Dr. Amy Nau is designing new studies to increase the effectiveness and accessibility of the BrainPort device, which helps those affected with vision loss gain a sense of environmental awareness. By using sensory substitution—essentially "seeing" with our tongues—and the latest advancements in smart phone technology, Dr. Nau is proposing a convenient, portable, and efficient use of the current BrainPort model.

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New Additions to the Eye and Ear Foundation

You may know our Executive Director, Lawton Snyder, but now we have two new staff members. Katherine Troy has joined us as Administrative Coordinator and *SIGHT + SOUND* Project Manager. She is responsible for raising awareness of the foundation through marketing and communications. Our other addition is Zack Butovich, Development Associate, in charge of assisting in stewardship, solicitation of new prospects, writing and editing proposals, and content for *SIGHT + SOUND*.

tell us your STORY

The Eye & Ear impacts many lives, especially those of patients and families, and sharing your story can make a difference in the work we do. Educate others about the seriousness of the diseases and disorders we treat. Encourage those struggling with similar conditions. Inspire others to support research and care with a charitable gift. Share your story today at eyeandear.org.

Medical Eye Bank Foundation—70 Years of Support for Cornea Research

by Zack Butovich



Dr. James Funderburgh

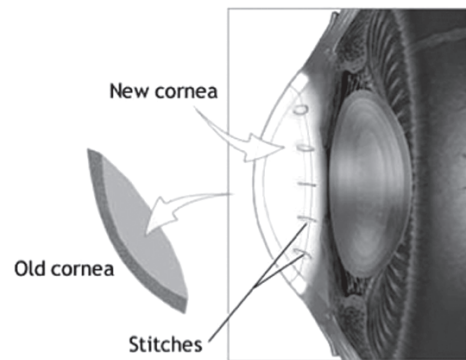
The Western Pennsylvania Medical Eye Bank Foundation has a long and close relationship with the Eye & Ear Foundation of Pittsburgh. Having donated over \$300,000 to our cause in the last year alone, and with a strong interest in the Fox Center for Vision Restoration, they have funded and helped advance some truly brilliant and world-changing research.

The Medical Eye Bank Foundation began with the first eye transplant at the Eye and Ear Hospital of Pittsburgh in 1940, performed by Dr. Jay G. Linn Sr. Over the following years, Dr. Linn pursued the creation of a local eye bank, leading to the establishment of the Eye Bank of Pittsburgh in 1953, as a part of the Eye and Ear Hospital. Over time, the Lions Club became involved, helping create the Medical Eye Bank of Western Pennsylvania, a new, non-profit organization, in 1973.

The new organization was a great success, growing rapidly as the rate of eye donations and area of coverage expanded. After increasing to an even larger service area in 1992, the Medical Eye Bank extended coverage to 73 hospitals and all health care facilities in a 23 county region. Four years later, the Center for Organ Recovery and Education (C.O.R.E.) was

created and absorbed the operations of the Medical Eye Bank of Western Pennsylvania in the interest of the preservation of the corneal transplant program. The original board, meanwhile, formed the new Western Pennsylvania Medical Eye Bank Foundation.

Presently, the Foundation is committed to supporting research projects focused on corneal disease and transplantation techniques. To that end, they have provided substantial funds for the Louis J. Fox Center for Vision Restoration through gifts to the Eye & Ear Foundation. And the results have been astounding. Dr. James Funderburgh has discovered stem cells in the cornea, which, when merged with damaged corneas, repair them to near fully functioning state in animal models, essentially, making once damaged cornea nearly indistinguishable from healthy corneas. Countless other applications for these stem cell techniques are being put in place—a potential cure for glaucoma is the focus of another pursuit. The contributions made by the Western PA Medical Eye Bank have helped make this immensely successful and groundbreaking research become a reality. **S+S**



ADAM.

Graphic of a corneal transplant

Grateful Patient Plans to Make a Difference for Cranial Base Research

by Zack Butovich

There are many different ways of donating to the Eye & Ear Foundation, apart from a simple donation. A few of these ways are to create a charitable gift annuity, (which can either be immediate or deferred, depending on when you would like a fixed payout), a remainder annuity trust, or a remainder unitrust—all of which, and more, can be described in further detail at eyeandear.org.

Of the many types of giving, Mr. David Wagner has generously pledged to the Eye & Ear Foundation in the form of a bequest. A bequest is a specific kind of donation that sets aside the contribution now through a provision in a will or trust for a specific purpose. Each giving plan exists in order to provide the most convenient form of charity for each individual. Having no children, David didn't want his left over retirement to go to waste. He decided a bequest would help him make sure his money went exactly where he wanted, to a place he knew that it would help, to a place whose mission he believed in—the Eye & Ear Foundation for cranial base research.

Working successfully as an engineer with ceramics and heat resistant materials for nearly 30 years, David's whole life was thrown up in the air when he was diagnosed with nasal carcinoma (a form of sinus cancer) at the age of 45. At the time, Mr. Wagner recalls that the news made him feel "just numb." It is impossible for anyone to know how they would react to the news Mr. Wagner received, yet he was faced with it, and he had to figure out those next, crucial steps.

The first thing he did was tell his sister, who turned right around and called Dr. Jonas Johnson, the head of the Department of Otolaryngology at the University of Pittsburgh. As fortune would have it, David's father and Dr. Johnson's father were dentists together, and had known each other for quite some time. A few days later, while on his way to a clinic in Cleveland for an evaluation appointment, Dr. Johnson called David directly, insisting that he come to Pittsburgh and be seen at the Eye and Ear Institute. Dr. Johnson told Mr. Wagner that EEI was "a better place," and gave him directions, instructing him to turn around and head east.



David Wagner still enjoys scuba diving, among other activities in his free time.

He arrived in Pittsburgh that Monday, was seen Tuesday, and returned Thursday for another appointment. That Friday he had his first surgery and was home by Saturday.

Over time, he had two more major surgeries, but was always able to go home the next day. Eight months later, however, the cancer came back, and despite several surgeries, his eye was eventually removed. In total, Mr. Wagner went through nine surgeries performed by Dr. Carl Snyderman, seven of which were minimally invasive. Despite this, David's foremost thought of his experiences was that it took 3 or 4 visits before he could make Dr. Snyderman laugh. Among the most remarkable things about David, is that through everything, his sense of humor was never lost.

He felt like a brand new person after his visits to Eye & Ear. It was like he was "20 years old." David stated profoundly, "I got that feeling again, that thought, what am I going to do in six months?"

David is doing great now, and aside from enjoying his trips to Pittsburgh for a bite at Pamela's diner, lunch at China Buffett, or a barbecue with some friends, David "always has fun coming into Eye & Ear," feeling like "he has a lot of friends," every time he comes in. The Eye and Ear Institute, and Department of Otolaryngology are proud to provide the kind of care that has truly made a difference in Mr. Wagner's life. **S+S**

Fox Center Holds Inaugural Conference

On May 26 and 27, 2011 the Louis J. Fox Center for Vision Restoration of UPMC and the University of Pittsburgh hosted its inaugural, **Vision Restoration: Regenerative Medicine in Ophthalmology** conference.

Approximately 130 guests were in attendance at the University Club, in Oakland. The keynote speaker was Brent Saunders, CEO of Bausch and Lomb, who discussed the importance of academic and industry collaborations for successful commercialization and clinical adoption. The field of regenerative Ophthalmology is in its infancy, but it has the potential to affect millions. As noted by conference organizers, "In the time it takes for the conference to be held, over 30,000 people around the world will become blind."

Introducing Our LEGACY LOGO



With this edition of *Sight + Sound*, The Eye & Ear Foundation is proud to launch a new logo

that represents the evolution of our organization. The logo shares typographic and color similarities with our previous look, but adds a symbol that visually depicts eyes and ears using mirror images of the letter e. This dichotomy represents the two central elements behind our mission: research and educational support.

During the logo development process, Dr. Joel Schuman, Chairman of Ophthalmology, happened



to stop in our office with a lapel pin bearing an old logo adapted from the Eye and Ear Hospital. Liking the idea of creating a new identity with a historical link, Lawney Snyder asked for a design inspired by the pin—and our "legacy logo" was serendipitously born!

Gift from Anonymous Donor Establishes New Glaucoma Stem Cell Lab

by Zack Butovich

Nearly 3 million Americans have lost their vision to a disease called glaucoma.

Glaucoma is a disease of the retina, and though there is currently no cure, there are some treatments. Through the extremely generous gift of \$200,000 from an anonymous donor to the Eye and Ear Institute, the Fox Center for Vision Restoration has been able to develop research into an exciting and new potential cure for glaucoma—work that is only being done in Pittsburgh.

The trabecular meshwork is a sponge-like tissue in the back of the eye that helps drain excess fluid into the venous system, which helps maintain pressure in the eye at normal levels. When the cells of the trabecular meshwork begin to decrease in number, the drainage system becomes clogged, creating too much pressure, which causes damage to the optic nerve, forming the early stages of glaucoma. As the optic nerve becomes damaged, vision gradually diminishes until it is totally gone, as illustrated below.

Extreme Glaucoma



Advanced Glaucoma



Early Glaucoma



Normal Glaucoma



At this time, no one is sure the cause of the decrease of cells in the trabecular meshwork that causes glaucoma. However, our researchers are making some incredible steps towards a cure. Dr. Yiqin Du is leading a new lab determined to develop new solutions for glaucoma that have never before been tested.

Dr. Du is an eye surgeon who worked with Dr. James Funderburgh as part of the research team that first discovered stem cells in the cornea. This group of researchers, working collaboratively with other University centers all across the country, learned when corneal stem cells are used to treat damaged

corneas, they repair the damaged tissue so well, making it nearly indistinguishable from undamaged corneas. This discovery is groundbreaking work, and has paved the way for countless new advances in optic care.

Shortly thereafter, Dr. Joel Schuman, the Ophthalmology Chairman at the University of Pittsburgh, approached Dr. Du with the idea of using Dr. Funderburgh's technique to utilize stem cells from the trabecular meshwork as part of a potential therapy for glaucoma. This new procedure would theoretically revitalize proper functioning in the eye, preventing and reversing some of the damaging effects of glaucoma.


So far, the results of this model have showed extremely positively. Soon, Dr. Du hopes to apply for federal funding, transforming the lab into a vast, National Institutes of Health funded laboratory—one that can work towards and hopefully someday find a cure for glaucoma. None of this would be possible without the generous support of our donors. The Eye & Ear Foundation, as well as the Department of Ophthalmology at the University of Pittsburgh, greatly anticipates the new solutions that Dr. Du can bring to the field of glaucoma research and to those in the world that suffer from the debilitating symptoms of glaucoma. **S+S**

Researchers are making incredible strides toward a cure for Glaucoma.

Big Interest in Hearing and Balance Research

by Lawney Snyder

On May 11, 2011, The Eye & Ear Foundation held the inaugural Balance and Hearing Event hosted by Milton and Sheila Fine. Close to 100 individuals came to the Pittsburgh Golf Club to hear what Otolaryngology Department Chair, Jonas Johnson, M.D., F.A.C.S., had to say about the latest research advancements underway at the University of Pittsburgh.


After the group gathered for a cocktail reception, Mrs. Sheila Fine shared her experiences related to balance and hearing deficits and how she overcame these issues which developed because of Meniere's disease (a disorder of the inner ear). Mrs. Fine made a passionate appeal for more research in these areas to benefit future generations. Mrs. Fine then introduced Dr. Johnson who provided an overview of the advancement in Otolaryngology research within the department for hearing and balance as well as head and neck cancer, tinnitus, and robotic surgeries. Dr. Johnson then showed a video which featured several patients who have benefit from the cutting edge patient care they received from the UPMC Ear Nose and Throat Specialist. This video is available for viewing at eyeandear.org. 



Milton & Sheila Fine and Dr. Jonas Johnson

The Joseph Soffer Memorial Lecture Dazzles the Crowd Again

by Amy Nau, OD and Lauren Wally

The lecture, hosted by Eye & Ear Foundation board member, Vi Soffer and the Eye & Ear Foundation, attracted an audience of over sixty people from the University, general public, and foundation community. The Joseph Soffer Memorial Fund benefits macular degeneration and glaucoma research. For more information, please contact the Eye & Ear Foundation at **(412) 383-8756**. 



Dr. Joel Schuman and Vi Soffer

Otolaryngology Letter, continued...

surgery. Umamaheswar Duvvuri, MD, PhD is the Director of the center and is 1 of 3 surgeons in the Department performing head and neck surgery robotically. The center is also actively engaged in collaborating with the Robotics Institute at Carnegie Mellon University to develop and optimize cutting-edge robotic technologies.

We have successfully recruited Alec Vaezi, MD who is a physician-scientist to the head and neck cancer team; Dr. Vaezi will create a new research program and perform clinical work.

Lastly, the Department of Otolaryngology is ranked among the best in the world. For the past decade, the Department of Otolaryngology has received the highest U.S. News and World Report rating of all the medical specialties at UPMC. In 2011, the department was ranked #2 in the nation, an increase from #3 in 2010.

Jonas T. Johnson, MD

The Dr. Eugene N. Myers Professor
Chairman of Otolaryngology
University of Pittsburgh School of Medicine

Ophthalmology Letter, continued...

Additionally, within the Fox Center Dr. Peter Crapo is working hard on regenerative medicine, collaborating with tissue engineers and hypothesizing how to regenerate optic nerve tissue using techniques gained from research within the University of Pittsburgh's McGowan Institute for Regenerative Medicine.

As we continue to grow we are forging new pathways into research that we feel is critically important to the millions who suffer from diseases and disorders of the retina. We are now focusing on finding more resources for a new center for retinal research. By bringing in leading scientists from all over the world, we plan to inspire new research and create innovative solutions to help treat issues with the retina, and fill the gap in knowledge with effective therapies.

There is so much new research at the Department of Ophthalmology that we look forward to continuing to update you future editions of *SIGHT+SOUND*, as our physicians, scientists and researchers continue making phenomenal advances in treatments and care for our patients.

Joel S. Schuman, MD, FACS

Eye & Ear Foundation Professor
Chairman of Ophthalmology
University of Pittsburgh School of Medicine
Director, UPMC Eye Center

[July 2010 - June 2011]

SUPPORTERS of the Eye & Ear Foundation

New Science and New Solutions

The Eye & Ear Foundation gratefully recognizes the individuals, businesses, and foundations whose generosity allows us to bring new science and new solutions to people with diseases and disorders of the eye, ear, nose, throat, head, and neck. Your support makes all the difference. **Thank you.**

Grateful Patients

Each month, we receive many donations from grateful patients. These patients, so thrilled with the outstanding care they received from their physician, send their gift in their physician's honor. We would like to share some of these statements of appreciation.

Dr. Barry Hirsch

“Thank you for all that you do to improve the lives of your patients. You are a blessing to this world!”

Dr. Eiyass Albeiruti

“I thanked God, but I also thank you.”

Dr. Denise Gallagher and Dr. Alex Anetakis

“I would like to thank Dr. Denise Gallagher and Dr. Alex Anetakis for their help in restoring my vision thru surgery after my torn/detached retinas. I just wanted to let them know how grateful I am to them.”

Dr. Bosco Noronha

“You did a super job when you did my surgery.”

\$100,000+

Anonymous
The Western Pennsylvania Medical
Eye Bank Foundation

\$25,000 - \$99,999

Nancy Adams
The Fine Foundation
The John E. & Sue M. Jackson Charitable Trust
McAuley Ministries
Mendel & Sylvia Solomon Charitable Trust
Steve & Marian Mosites
PA Lions Sight Conservation and
Eye Research Foundation
E. Ronald Salvitti

\$10,000 - \$24,999

Allergan Foundation
Campbell Family Fund
Merz Aesthetics
The Pittsburgh Foundation
Glenwood Scott
Charles & Louella Snyder, Jr.
Violet Soffer

\$5,000 - \$9,999

Donald & Sylvia Robinson Family Foundation
Edith Trees Foundation
Michael & Kim Evans
Gerald Metals
Walter Goldberg
Jonas & Janis Johnson
Lloyd & Maria Lander and Family
Myrtle Forsha Memorial Trust
V. K. & V.N. Raju
Larry Zieske

\$1,000 - \$4,999

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Albert & Barbara Biglan
Richard Bowers & Miriam Rader
Bridgton Lions Club
Charles & Jill Brodbeck
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Monika Daley
Stanford & Ada Davis
District 14N Lions Fund Raising
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Francis and Madeline Shane Fund
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Hay-Roe Family
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John Patrick and Mildred Kathryn Gilmartin
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Sidney & Wilma Rosen
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Susan and Barney Guttman Philanthropic Fund
Robert Uhl
Bruce & Barbara Wiegand
Charles Yankel
Zissu Family Foundation

\$500 - \$999

Donna Albright
Anonymous
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Donald Klein
Gregory Ludvik
Jennifer Panasko
The Pittsburgh Foundation
William & Nancy Rackoff
Andrew & Mary Beth Sloan
Lawton & Susan Snyder
Steve Thomas

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Rosemary Coar
Philip Delozier
Joseph & Karen Divito
The Doreen and Michael Cohen Family Fund
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Howard Rom
Sol Ruben
Stephen Sakumoto
Isamu & Yoko Sando
David & Elizabeth Segel

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Daniel Shapira
Arthur & Florita Sonnenklar
Barbara & Lou Steiner
Stewart Family
Robert Susa
James Szalankiewicz
Robert Wunar

\$100 - \$249

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Aethon, Inc.
Quzi & Soraiya Ahmed
Anonymus (13)
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Gloria Ball
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Bella & Frank Bencivenga
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Earl Feeney
Robert Feyche
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Norman Frey
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John & Nita Kellum
Ms. Anne Kelly
Paul & Linda Kelly
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Ruth Mansfield
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Megan Meridew
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Timothy Murphy
Donna Nativio
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Susan Nernberg
Theresa Nimick-Whiteside
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Marie Oldham
Karl Olsen & Martha Hildebrandt

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University of Pittsburgh
Dept. of Otolaryngology
Pothen Varughese
Ronald Venneri
Dolores Vesio
John & Donna Viehman
Iris Walker
Ships Watch Family
David Watson
Edmond Watters
Evan & Laura Waxman
Alexander Weilenmann
David Weis
John Wolfe
Virginia Woodings
Christopher Zamboni
Roger Zelt

Different Ways **TO GIVE**

There are many ways to make a difference at the Eye & Ear Foundation. All donations are used to fund education and research in the fields of Ophthalmology and Otolaryngology. The easiest way to give is through our website, eyeandear.org. Donations can also be mailed to:



**203 Lothrop Street, S119-BST
Pittsburgh, PA 15213**

A planned gift through your will, trust, or annuity is another way to provide your support. Please call with any questions, **412.383.8756**, we will be happy to assist you.

All major credit cards are accepted, and PayPal.

The Science & Solutions Society

As the Eye & Ear Foundation grows and develops friendships within the community, some exceptionally generous people have taken to including us in their estate plans, promising what we call a planned gift. In order to thank those individuals, we have created a new "Science & Solutions Society," to honor their gifts. The Science & Solutions Society recognizes friends who have made a commitment to The Eye & Ear Foundation through planned or deferred gifts. If you have the Eye & Ear Foundation in your estate plans, please let us know if you like to be a part of our Science & Solutions Society.

The Members, starting in the Fiscal Year 2010 and through Fiscal Year 2011 are:

*Dr. Paul E. Rafail
Dr. Joseph F. Novak and
Mrs. Eve Novak
Dr. Berrylin J. Ferguson
Mr. Glenwood C. Scott
Mr. David B. Wagner*

Kittanning Couple on Quest to Impact AMD Research

by Zack Butovich

The Eye & Ear Foundation Hosts Movie Premier of *Going Blind*



On September 14, 2011, the UPMC Eye Center hosted a public screening at the

Southside Cinemas of *Going Blind*, a unique documentary that attempts to increase public awareness of vision loss and low vision issues that affect the lives of millions of people. Director Joe Lovett has glaucoma, a disease that that robs 4.5 million people worldwide of their vision. The documentary consists of interviews with ordinary people affected by some form of vision loss and discusses how they manage their lives, and is interwoven with Mr. Lovett's own experiences. For more information, please visit www.goingblindmovie.com.



Charles and Louella Snyder

About four years ago, Louella Snyder started receiving treatment for a condition called age-related macular degeneration (AMD). AMD is caused when the growth of abnormal blood vessels form under the center of the retina in the eye. Over time, this condition causes bleeding in the eye and, if left untreated, blindness. The most common form of treatment for AMD currently is the injection of a pure drug solution, called antiangiogenic agents, directly into the eye through a needle. Though relatively effective, this treatment is inhibited by the fact that the body is able to clean these drugs out of the eye very quickly, meaning that the injection must be repeated every month. Needless to say, this treatment regiment is extremely uncomfortable and inconvenient.


Mrs. Snyder, when first diagnosed with AMD, received treatment at John's Hopkins University in Baltimore. Being from West-Central Pennsylvania, however, Mrs. Snyder preferred to come to Pittsburgh, making the travel distance much more manageable. Her physician at John's Hopkins, consequently, referred her to Dr. Andrew Eller at the Eye and Ear Institute. Upon coming to Eye and Ear, Mrs. Snyder felt very well treated by everyone, immediately noting, "It was very easy to come [to Eye and Ear]." Dr. Eller, she said, was especially comforting.

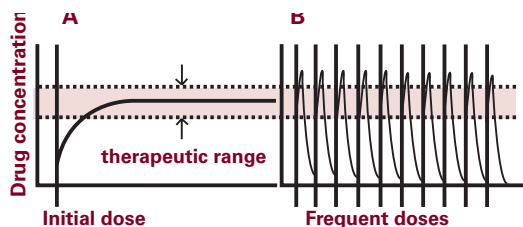
Mrs. Snyder and her husband, Charles Snyder, had already been very charitable towards other foundations focused on sight and

vision care by the time they made it to Eye and Ear. And while those foundations work towards a great cause, the Snyders felt, after their experience with Eye and Ear, that keeping their support to a local organization like the Eye & Ear Foundation, would have a greater impact in the field of eye care. To that end, Louella and Charles Snyder have donated very generously to the Fox Center for Vision Restoration, with a direct interest in macular degeneration research. Presently, the Fox Center is making great strides towards improving the forms of treatment available to those suffering from AMD.

As mentioned earlier, the difficulty with AMD treatment is the drugs can get washed out of the eye as part of the body's natural functions very quickly. In an effort to resolve this issue, scientists and researchers with the Fox Center are working on a new substance called "reverse thermal gel" (RTG), which dissolves in water, but turns into gel when injected into the eye. The idea is to mix the antiangiogenic agents with the RTG and then inject them into the eye, hopefully reducing the growth of the blood vessels that cause AMD and keeping the drugs at the site for longer periods of time. This would mean for those suffering AMD, less direct injections into the eye, and a sustained period of drug therapy, as demonstrated by the illustration below.

The Snyders are kept up to date on the new research that comes through the Fox Center, and needless to say, are excited about it. They couldn't help but remark that the labs must be "on the right track," towards the potential cures and treatments for the various fields for which they were working.

Nearly two million Americans over the age of 40 have AMD, and approximately another seven million have intermediate levels of the disease. Research conducted at the Fox Center for Vision Restoration is crucial in those steps towards relief and care for people who suffer from this difficult condition. Generous supporters like Louella and Charles Snyder make our world-class research possible. We, at the Eye & Ear Foundation and Fox Center, are extremely grateful for their generosity and look forward to continued involvement with them, the University, and the City of Pittsburgh. 



A: Proposed method that offers controlled release and a sustained concentration in the therapeutic range for a long period after one injection.

B: Current method that needs frequent injections.

WVU Professor Motivated to Make a Pledge for Otology

by Zack Butovich

Dr. Nancy Adams believes in giving back to the community. After she retires from her professorial position with West Virginia University, she is considering many different paths, including moving to the southwest U.S. to work with Native Americans, or to Washington DC as a parish family nurse practitioner, or to developing countries as a birthing provider. This commitment to charity is reflected in her donation to the Eye & Ear Foundation. Dr. Adams has pledged a generous sum to be paid over the next 5 years. Believing in the mission of the Eye & Ear Foundation, and wanting to support the work of Dr. Barry Hirsch, she has given to the Otology Fund, to be used towards the education efforts and programs of the Department of Otolaryngology.

Dr. Nancy Adams is a full-time teacher, part-time nurse, and former member of the military. As a member of the military, she served both on active and reserve duty for 34 years total achieving the rank of colonel. Four years ago she retired from the service.

Originally from Washington DC, Dr. Adams received her first graduate degree as a nurse practitioner, and subsequently, in nursing administration. Eventually, she moved to Morgantown, becoming the Chief Nurse Executive with West Virginia University Hospitals. After seven years in this capacity, Dr. Adams moved to a faculty position in the Department of Public Administration. She serves as the Program Director for the Healthcare Administration specialization and for the Master of Legal Studies Program. She has taught for the past 21 years. She likes the students, the research, and especially the academic setting.

After complications from a previous otological surgery, Nancy was referred by her primary

care physician to the Eye and Ear Institute for treatment. Her first appointment was with Dr. Barry Hirsch, and immediately she was very impressed with the Department of Otolaryngology and the Eye and Ear Institute. Dr. Hirsch, as she recalls, was very friendly, professional, and very clear about finding an answer to her condition. Before coming to Eye and Ear, Nancy had a very complicated condition, which was met with difficulty and hesitance from some physicians, and consequently, concern from Nancy herself. Dr. Hirsch, however, stuck with it. He recognized the inherent issues with the condition, treated her with respect, identified the specific difficulties, and addressed the problem. More importantly, Dr. Hirsch listened to Nancy, something which was especially comforting about her visits.

Nancy has since been working with Dr. Hirsch on follow up visits. She has finished her rehabilitation, and is now concentrating on balance therapy. She is back to teaching and is still a practicing part-time nurse. Although it took some time, she is finally back playing the flute, a pleasure she had to set aside for three years after her original surgery.

Nancy reports that she has never felt as good as she does now, since her visits with the Eye and Ear Institute. It was a "great, huge difference," she says. She was amazed with the Eye and Ear Institute at her appointments. Coming from a background in healthcare organizations and organizational efficiency, the process and procedures at EEI remarkably impressed her. The "consistent quality, patient focus, and overall positive experiences," at EEI really instilled a feeling of confidence and comfort for her as both a patient and healthcare professional. **S+S**

The consistent quality, patient focus, and overall positive experiences at EEI really instilled a feeling of confidence and comfort both as a patient and healthcare professional.

– Dr. Nancy Adams



Dr. Nancy Adams

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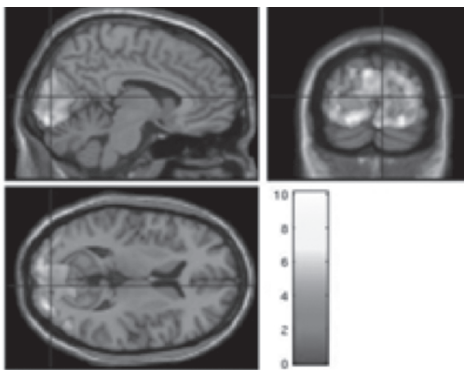
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The Fine Foundation Continuing Support of Eye & Ear with Gift to Sensory Substitution

by Zack Butovich



Activation of the visual cortex of a visually impaired person while using the brainport.

The Fine Foundation, formed by the proceeds from the sale of the Interstate Hotels Corporation, the largest independent hotel management company in the country, co-founded by Mr. Milton Fine himself, is a Pittsburgh based family foundation dedicated to improving peoples' lives through the support of arts and culture, science and medicine, Jewish life, and the enrichment of the Pittsburgh region.

As the son of immigrant parents, Mr. Fine emerged from working class Pittsburgh to become an industry leader and self-made entrepreneur. Believing that "those who have created wealth have a unique opportunity to give back to society," Mr. Fine and his wife, Sheila Fine, are committed to the philanthropic interests of the Pittsburgh community—Mr. Fine, for several years, sat on the board for the Carnegie Museum of Art, while Mrs. Fine leads advocacy groups and service organizations that assist those with depression and emotional health.

Wanting to follow their interests towards efforts in science and medicine, the Fines began a relationship with the Eye & Ear Foundation. Having served on the EEF board, and suffering from Meniere's Disease, which can cause bouts of vertigo, balance problems, and hearing loss, Mrs. Fine all too well understood the need for the Eye and Ear Institute to provide the very best in patient care. In support of the great work, groundbreaking research, and world-class patient care Eye and Ear provides, the Fines, in conjunction with their foundation, have given nearly \$200,000 over the past few years to various funds within the Eye & Ear Foundation.

The latest contribution from the Fine Foundation supports work on developmental protocols for use of the Brainport. The Brainport is a revolutionary device that uses a process called "sensory substitution," using one sense for lack of another, in order to assist with providing a kind of vision for those who have lost it. The device is comprised of a pair of sunglasses with a camera attached. The camera connects to a small, handheld device, which converts the image to an electronic signal which is sent to a small pad which is placed on the user's tongue. The pad, called the "lollipop,"

provides an electronic stimulus, helping patients determine their basic surroundings. However, the Brainport does not provide sight—it instead uses another sense, in this case, the sensitivity of the tongue, to relay basic visual information back to a user who can then translate it into an environmental awareness. Patients, with appropriate exposure and practice, in the future, may, effectively, be able to use the Brainport to walk independently, notice objects above their heads, and possibly even read.

Some very exciting research has begun developing around the Brainport. Already researchers have determined that when in use, the brain's visual cortex is activated—the same area that is activated by sight in a non-visually impaired person. Though the connection between the two is still a mystery, it has spawned many more hypotheses.

However, the Brainport users need practice, training, and constant exposure with a trained professional in order to become proficient at using it. The programs that help patients learn to use canes or guide-dogs do not exist for the Brainport, simply because the technology is new, but also due to its relative lack of exposure. The Fine Foundation contribution is being put towards the development of those professional trainings. This training, while some of it takes place in a lab, is being redesigned so that it can be conducted at home by the patient, with the remote assistance of a professional. The process is called telerehabilitation, and it means that by using the internet, and other connective systems, therapists can interact remotely with subjects, helping them achieve tasks and develop independent habits, regardless of geographic restrictions. In time, our researchers and scientists expect to develop effective and efficient interactive protocols for those who use the Brainport—making the device mainstream, reliable, and intuitive.

Though there is still much work to be done to improve the Brainport technology and the development of protocols, as well as further research, the Fine Foundation has truly helped set the groundwork for improving and revolutionizing the quality of life for those suffering vision loss. **S+S**

Local Community Trusts Provide Support for the Research and Education in Otolaryngology

by Zack Butovich

The PNC Foundation and Charitable Trusts has made three gifts this past year to support research through the Eye & Ear Foundation. Providing support for both Dr. Jennifer Grandis' research and Dr. Barry Hirsch's educational endeavors, PNC has helped the Department of Otolaryngology continue forward in providing the best and highest quality patient care possible.

Forty years ago, the survival rate for those suffering from head-neck cancer was roughly 50 percent. Today, that survival rate has only marginally improved. Dr. Jennifer Grandis, of the Department of Otolaryngology at the University of Pittsburgh, is determined to improve that dismal statistic. Along with a team of collaborative researchers, and the support of the Myrtle Forscha Memorial Trust through the PNC Foundation and Charitable Trusts, she is making astounding breakthroughs in head-neck cancer research.

Head-neck cancer is the collective name for tumors found in the oral cavity, and is the sixth most common form of cancer in the world, with half a million new cases each year. Though the exact cause of it has not yet been determined, scientists know those affected with HPV (human papillomavirus) have the highest chance of contracting the disease.

According to Dr. Grandis, "There [is] a really big gap in knowledge that was an obstacle to doing the right kind of research...If we didn't know the spectrum of the mutations that were in our patients' tumors, we couldn't begin to develop more appropriate therapies because we were sort of playing in the dark." Soon after, Dr. Grandis helped compose research that lead to the discovery and development directly into the genetic composition of the afflicting tumors, identifying a potential new form of treatment for patients.

The genetic make-up of a tumor may determine in which cases "a gene can act as a growth promoter in cancer, and in other cases...the same gene behaves as a growth suppressor," said Kenneth Kinzler, a professor with John's Hopkins University, an associated research center with the study. This discovery helps determine which drugs and therapies can more effectively target different areas of the tumor, meaning ach patient may receive completely individualized treatment for their condition. Dr. Grandis, and her collaborative team of researchers and scientists, through the generous support of the PNC Foundation,



Dr. Jennifer Grandis

are making huge strides towards improving that survival rate for head-neck cancer, closing the gap of knowledge that prevents effective research, leading to better, more individual care to each patient.

Already, the PNC Foundation has already supported further research towards head-neck cancer. The Mendel and Sylvia Solomon Charitable Trust provided funding for Dr. Grandis and her associate, Dr. Ann Marie Engloff, to begin a new study that will expand upon the discovery of the genetic make-up of tumors. Recently, Drs. Grandis and Egloff have undertaken an analysis of head and neck squamous cell carcinoma (HNSCC), discovering mutations of a family of developmental genes. This means that new therapy techniques can be employed, to potentially even more effective results, to those patients indicating specific genetic markers. The foundations, through the PNC Charitable Trust, have been great supporters in helping fund the Grandis and Egloff lab move forward with further, groundbreaking research.

However, Dr. Grandis' research is not the only project the PNC Foundation and Charitable Trusts Committee has supported through the Eye & Ear Foundation. Dr. Barry Hirsch, through a large supporting gift from the John E. and Sue M. Jackson Charitable Trust, now has a newly updated, state of the art temporal bone lab, comprised of twelve stations, each equipped with microscopic instruments and brand new tools, with which to teach students how to improve their techniques in cranial surgery. The gift from PNC has provided Dr. Hirsch with an irreplaceable teaching tool, a place for those students attempting to learn complicated procedures and hone their skills, so that they can one day help a patient in need.

The PNC Foundation and Charitable Trust and the Eye & Ear Foundation have developed a strong, incredibly productive relationship over these past few years. Having supported some groundbreaking research in head-neck cancer, as well as top of the line education opportunities, the PNC Foundation has shown a firm dedication to philanthropy and devotion to the development of the highest quality patient care available. **S+S**

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Letter from the Executive Director



Lawton Snyder

On behalf of the Eye & Ear Foundation, I would like to thank everyone who contributed to making 2011 one of our most successful years. We had almost 1,000 individuals, foundations, and corporations make contributions, we had multiple events and gatherings, and there is a continued enthusiasm about the exciting science in the Eye and Ear Institute. This year has helped us validate what we already knew; there is a real opportunity to make a difference for people who suffer with diseases or disorders of the eyes, ears, nose, throat, or cancers of the head and neck.

We had growth within our organization this year and welcomed some new members to the team. Our board of directors grew by six new members this year with the additions of Mrs. Vi Soffer, Dr. Eugene Myers, Dr. Jennifer Grandis, Dr. Deepinder Dhaliwal, Mrs. Cynthia Mosites Sunseri, and Mr. Aldo Zini. The EEF staff grew this year with the additions of our Administrative Coordinator Mrs. Katherine Troy, and Development Associate Mr. Zacharian Butovich. The management and administration of the EEF is a real team effort between staff, volunteers, as well as support from the faculty and staff within the two departments. Every member of this team has brought tremendous enthusiasm and dedication to the completion of our mission to bring new science for new solutions to our patients who need it.

We are anticipating a challenging but exciting year ahead. The seemingly endless downturn in the economy has put a strain on some people who would like to do more but there is no recession when it comes to the need for new discoveries and I know people will continue to answer the call. Everyday we learn about some of the most exciting, cutting edge research happening anywhere in the country, and it is right here in Pittsburgh. Our goal is to continue to promote the great work of EEF through the *SIGHT + SOUND* Newsletter, outreach events and lectures, and to provide the inspiration for those that are looking to make a difference.

Lawton Snyder
Executive Director
The Eye & Ear Foundation of Pittsburgh