



RETINA RESEARCH FOUNDATION NEWSLETTER

Foresight for Sight

Number 1/2012

Nanoparticles Help Researchers Deliver Steroids To Retina

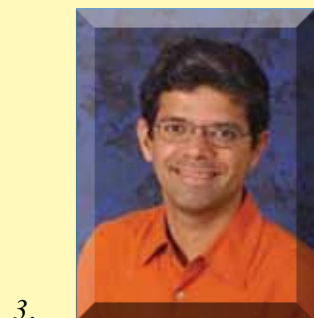
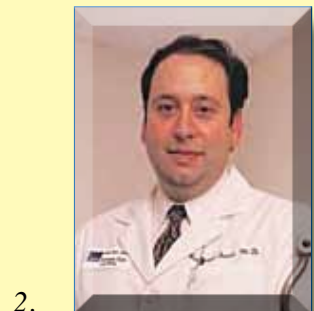
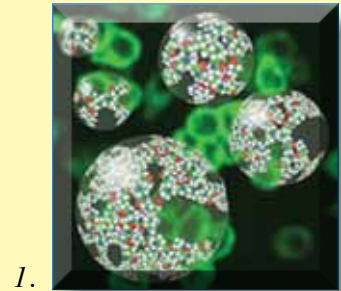
A collaborative research study among investigators at Wayne State University, the Mayo Clinic and Johns Hopkins Medicine has shown that steroids attached to nanoparticles (called dendrimers) in one intravitreal administration targeted the damage-causing cells associated with neuroinflammation but left the rest of the eye unaffected and preserved vision. This approach could lead to new ways to treat age-related macular degeneration and retinitis pigmentosa.

The principal authors of the study, Raymond Iezzi, MD (Mayo Clinic) and Rangaramanujam Kannan, PhD (Wilmer Eye Institute of Johns Hopkins) have developed a clinically relevant, targeted, sustained-release drug delivery system using a simple nanodevice construct. The experimental work in rat models was substantially conducted at Wayne State University. Results appear in the journal *Biomaterials*.

Both dry age-related macular degeneration and retinitis pigmentosa are caused by neuroinflammation, which progressively damages the retina and can lead to blindness. "There is no cure for these diseases," said Iezzi. "An effective treatment could offer hope to hundreds of millions of patients worldwide. We tested the dendrimer delivery system in rats that develop neuroinflammation leading to retinal degeneration."

The treatment reduced neuroinflammation in the rat model and protected vision by preventing injury to photoreceptors in the retina. The study found that the steroid offers only temporary protection, but the treatment as a whole provides sustained relief from neuroinflammation.

www.prnewswire.com



1. Dendrimers
2. Dr. Raymond Iezzi
3. Dr. Rangaramanujam Kannan



Daily Aspirin – Ask Your Doctor

This article is another reminder that the RRF Newsletter provides general information for your interest and benefit. As always, any medical decisions to be made must be discussed with your own physician.

Researchers have found that daily aspirin use may protect the heart but may possibly hurt the eyes, boosting the risk of age-related macular degeneration (AMD). Prior studies have yielded conflicting results on the connection between aspirin use and AMD, so the investigators noted that further evaluation is needed.

The researchers acknowledged the possibility of confounding by indication given that those with a history of cardiovascular disease are more likely to take daily aspirin and are also more likely to develop wet AMD.

In a population-based study led by Paulus T.V.M. de Jong, MD, PhD, of the Netherlands Institute for Neuroscience and the Academic Medical Center (both in Amsterdam), late-stage “wet” AMD was over two times more likely among daily aspirin users.

“If future studies support our results, then recommendations on aspirin may need to be modified for patients with age-related macular degeneration,” de Jong said in a press release. “It’s possible that increased AMD risk may outweigh aspirin’s potential protective benefits for some patients, but we need to know more about the impacts of dose, length of use, and other factors before we can say for certain, or make specific recommendations.”

His group’s European Eye Study included 4,691 participants ages 65 or older randomly sampled from the population of seven European countries from Norway in the north to Italy in the south. More than a third of these seniors (36.4%) showed early AMD on fundus photographs taken as part of the study, and late AMD was found in 3.3% of participants. Notably, one-third of individuals with wet AMD took aspirin daily compared with only 16% of those who did not have AMD. Adjustment for age, gender, and cardiovascular disease produced the 2.22-fold higher risk of wet AMD associated with daily aspirin.

For the “dry” form of advanced AMD, aspirin use didn’t appear to correlate with prevalence. This may have been due in part to the small sample size of only 49 cases.

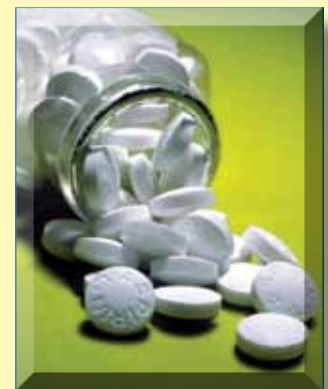
www.medpagetoday.com



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4. *Amsterdam Medical Center*

5. *Dr. Paulus de Jong*

6. *Aspirin Tablets*



RRF Pyron Award Recipients For 2011 To Receive NIH Grant

Three labs from the University of Pennsylvania have received \$12.5 million from the National Institutes of Health (NIH) as part of its program to challenge the scientific status quo with innovative ideas that have the potential to speed the translation of medical research into improved health for the American public.

The key investigators on one of these are **Jean Bennett, MD, PhD**, Principal Investigator of the study, Luk Vandenberghe, PhD, and **Albert M. Maguire, MD**, all at the F.M. Kirby Center for Molecular Ophthalmology, Scheie Eye Institute, Perelman School of Medicine.

The award of \$4 million over the next five years will be used for gene therapy to treat inherited forms of blindness, which can be caused by mutations in any genes. The researchers plan to develop a small number of therapeutics that could restore vision to millions of patients who are blind due to a diverse set of retinal disorders.

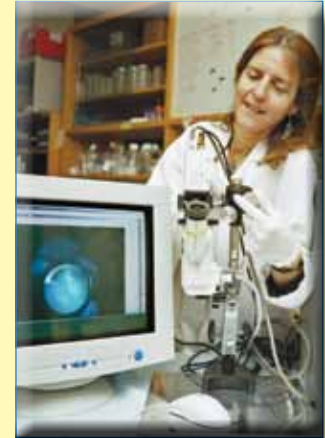
They propose re-sensitizing the blind eye by delivering light-sensitive molecules to the remaining retinal cells. This “optogenetic therapy” approach takes advantage of circuitry between the retina and the brain that remains intact in many individuals long after they have become blind. Preclinical studies in blind animals have demonstrated that this strategy is effective.

This study aims ultimately to test the safety and efficacy of this approach in blind patients in the clinic. The results from this project could lead to a significant improvement in the quality of life for millions of individuals, and could also pave the way for development of novel gene therapy approaches for the treatment of other devastating sensory diseases.

Dr. Jean Bennett and Dr. Albert Maguire were the 2011 recipients of RRF's Pyron Award. This Award, presented by American Society of Retina Specialists (ASRS), is funded by Retina Research Foundation and recognizes outstanding vision scientists whose work contributes to the knowledge about vitreoretinal disease.

www.physorg.com

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7. Dr. Jean Bennett

8. Dr. Albert Maguire

Gillingham International Fellowships

Two scientists from Brazil, **Tammy Osaki, MD**, and **Daniel Lavinsky, MD**, have been selected as the 2012 Gillingham International Fellowship recipients. These six-month fellowships, administered for RRF by the Pan-American Association of Ophthalmology (PAAO), are awarded each year to Latin American ophthalmologists for training at leading institutions in the United States.

Dr. Ramirez-Miranda was one of the **2011 Gillingham Fellows** and received advanced training at the Jules Stein Eye Institute, UCLA, from July 2010 to June 2011. The program director at Jules Stein was Dr. Anthony J. Aldave. The following is an excerpt of his report.

A regular week in this competitive fellowship included two clinical days and two surgical days. The rest of the time was destined for research activities. During clinical days, a heavy and demanding cornea clinic, with a heterogeneous population of Californian patients, provided the perfect environment to learn diagnosis and medical treatment of a collection of corneal diseases, from the simplest to the most complex cases, from keratoconus and corneal dystrophies to complicated cases of keratoprosthesis and limbal stem cells deficiency.

*I also had the pleasure of training with another international Fellow, *Dr. Siamak Zarei Ghanavati from Iran, who was the 2011 ICO Helmerich Fellowship awardee.*

Arturo Ramirez Miranda, MD
Assistant Professor of Ophthalmology
Instituto de Oftalmología “Fundación Conde de Valenciana”
Mexico City, Mexico

***Dr. Siamak Zarei Ghanavati** of Iran was one of the first recipients of the **ICO Helmerich International Fellowships**, which are also funded by RRF thanks to a gift from Walter H. Helmerich, III. These two 12-month fellowships provide advanced subspecialty training for young ophthalmologists from developing countries who return to teach and practice medicine in their home countries following the fellowship.



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9. *Dr. Ramirez-Miranda at the clinic*

10. *Performing corneal transplants under the supervision of Dr. Sophie X Deng*

11. *From left: Dr. Siamak Zarei-Ghanavati, Dr. Anthony J. Aldave, Dr. Arturo Ramirez-Miranda*

What America Looked Like: Blind Athletes in 1911

A turning point in public perception of the blind came in 1911, the year these photographs were taken.

On April 27, 1911, President Taft presided over a blindness awareness exhibition at the Metropolitan Opera House in New York City. As reported in the *New York Times*, Taft took blind education as a personal cause, and told the crowd emphatically that being blind was no justification for being classified by society as helpless and necessary objects of charity.

Taft advocated for greater educational opportunities for the blind, encouraging early-childhood interventions as well as **medical research to search for preventative measures**. Two years later, he was involved in the dedication of The New York Light House, a blind education workshop.

Seven years earlier, Helen Keller had become the first deaf-blind person to earn an undergraduate degree. She expressed astonishment in how quickly blind-awareness had spread since the turn of the century. “Ten years ago all that was known about the blind was locked up in institutions,” she wrote. “Now they have come forth from cloistered seclusion and have become your fellow citizens.”

The two photographs shown here are students at Overbrook School for the Blind performing gymnastic feats like any other group of able-bodied athletes. The athletes pictured here served as proof of Taft’s message that the blind could lead active lives in society.

www.theatlantic.com



12.



*“For I dipped into the future,
far as human eye could see,
Saw the vision of the world, and
all the wonder that would be.”*

*– Alfred, Lord Tennyson
(1809 –1892)
from “Locksley Hall”*

12. Blind athletes performing
in 1911

RRF Website

www.retinaresearchfnd.org

For the most current information about RRF research programs, we hope you will take a look at our redesigned website.

It's...

- Easy
 - Colorful
 - Packed with information
- ... and best of all, it's accessible 24/7!



Paypal for Online Donations

Want to donate securely and privately from home using a credit card? We now have Paypal on our website for your convenience.

On the home page, click on "Giving" or "Donate" and then it's just a few simple steps from there.

1. Complete the "My Contact Information" and "Gift in Remembrance" (if desired), then click on "Submit." This will generate a donation notice to RRF and route you to the secure Paypal site.
2. Fill in the amount of the donation you wish to make to RRF.
3. You do NOT have to have a Paypal account or log onto Paypal to donate online. Look for "Don't have a PayPal account?" and click on "Continue."
4. You will be able to securely enter your credit card information and RRF will receive immediate notice of your donation.

Look for descriptions of other new features of our website in future newsletters.

Retina Research Foundation

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email: rrf@retinaresearchfnd.org



"Check out the redesigned RRF Website"



"Nature composes some of her loveliest poems for the microscope and the telescope."

– Theodore Roszak (1972)



Meet the Board

Lynn A. Bernard, Jr.

RRF Board Service

Board of Directors 2012

Fund Drive Vice - Chair 2011

Education

BA Vanderbilt University 1976

MBA University of Texas 1978

Career

- Invesco Ltd. – Manager of Investment Services – 2001 to present
- Pinnacle Management & Trust-Chief Investment Officer – 1997 to 2001
- L.A. Bernard & Associates – Founder & Chief Investment Officer – 1990 to 1997
- Goldman, Sachs & Co. – 1978 to 1990

Affiliations/ Memberships

- Weekley Family YMCA Board
- St. John the Divine Episcopal Church
- Houston Livestock Show & Rodeo – Life member and former 20+ year committeeman
- Houston Country Club
- Thunderbird Hunting Club

Family

- A native Houstonian married to Carol Bernard
- Daughter, Emily, is a 2008 graduate of the University of Texas. Emily is establishing her PR/Communications career with Energy Ventures in Houston.
- Son, Will, is a 2010 graduate of Texas Tech University. He is progressing his career in the energy industry with Marathon Oil in Houston.
- Faithful K9 family members are Max (Labrador), Mesquite (Cavalier King Charles) & Bear (Labrador).

Interests

Lynn and Carol enjoy spending time with family and friends. Lynn has a passionate commitment to the Weekley Family YMCA and devotes time assisting the Y in its various initiatives to enrich the lives of those less fortunate, particularly the children, who reside in the Weekley Y's community. In addition to family, career, RRF and the Y, Lynn enjoys salt water wade-fishing and bird hunting.



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13. Lynn Bernard

14. The Bernard Clan

15. Carol & Lynn

16. Weekley Y "Tailgate Treat"
Volunteers

FREE MATTER
FOR THE
BLIND OR
HANDICAPPED

Remove name from mailing list.
 Change name or address as shown on address
clip and return entire address label in an envelope.
Please indicate changes in boxes and make any corrections needed next to your name and address, then

Address Correction Requested

Retina Research Foundation is dedicated to the eradication of retina disease through programs in research and education.

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Managing Editor: Margaret Farese
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SPECIAL REMEMBERANCES

IN MEMORY OF

James and Trula Abernathy
James David Abernathy

Mayde Butler
Rhett Butler

Ruby K. Falk
Suzanne Mears

John C. Friedmann
Jean Friedmann

Mary Beth Hastings
Betty Jo Spencer

Joan Y. Horton
William D. Horton

Philip W. Latimer
Louise Latimer

Margaret M. Love
Jan and Tom Simmons

Dr. John Stirling Meyer
Phyllis M. Bartling

Anthony Mierzwa
Rhett Butler
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Jenny Rix
Dr. Cecil and Martha Rix

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Lillian B. Wallace

Loral Watson
Cherald E. Williams

IN HONOR OF

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Dale and Marilyn Smith

**Gary and Linda Kubena –
A Visionary 2012!**
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Mr. Donald L. Falk
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Ernest and Marietta Pekmezaris

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Sally R. Thomas

J. K. Watson
Helen W. W. Moore

Edward Winter
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ESTATE GIFTS

Howard Sides

RRF accepts credit cards for donations securely online at www.retinaresearchfnd.org
Call the office for more information: 713-797-1925

Additional memorials received will appear in the next issue.

