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# RETINA RESEARCH FOUNDATION NEWSLETTER

Foresight for Sight

Number 3/2012



## Thanksgiving Greetings and Best Wishes

The Board of Directors and Advisory Trustees  
Retina Research Foundation

## 2012 RRF Chairs and Professors



**David Gamm, MD, PhD**  
**Humble Distinguished Director**  
McPherson Eye Research Institute  
*Deriving human retina cells and tissue-like structures from human stem cells*



**Nader Sheibani, PhD**  
**RRF Chair**  
Ophthalmology and Visual Sciences, University of Wisconsin  
*Studying molecular and cellular mechanisms regulating angiogenesis*



**Akihiro Ikeda, DVM, PhD**  
**Helmerich Chair**  
Associate Director, McPherson Eye Research Institute  
*Using mouse genetics to study the synaptic connections in the eye*



**Arthur Polans, PhD**  
**Murfee Chair**  
McPherson Eye Research Institute  
*Studying pathways that endow tumor cells with malignant and metastatic properties*



**Arnold Ruoho, PhD**  
**Gamewell Professor**  
McPherson Eye Research Institute  
*Studying molecular mechanisms of neurotransmitter release and receptor activation*



**Nansi Jo Colley, PhD**  
**MD Matthews Professor**  
McPherson Eye Research Institute  
*Using Drosophila to dissect the molecular genetic bases of photoreceptor function*



**Aparna Lakkaraju, PhD**  
**RM Brown Professor**  
McPherson Eye Research Institute  
*Studying cell biology of age-related macular degeneration*

RRF Chair at  
Baylor College  
of Medicine has  
yet to be named



November 2012

Dear Friends,

We are anticipating the closing of our fund drive on December 31, 2012. This marks our 43rd year of funding research to cure retinal disease.

Retina Research Foundation is well prepared to meet the challenges ahead, and we step forward with great hope. Scientists around the globe are zeroing in on the causes and cures of retinal disease. RRF supports a wide variety of research programs advancing this mission, including pilot study grants, ongoing research, established awards, international fellowships, and educational programs.

Much progress has been made, and new promising research findings will result in improved patient outcomes in the future. The scientists count on us and on our many friends and supporters to make their work possible.

You can be a part of this exciting mission of hope. If you have not yet given to RRF, we ask that you do so now.

This will be our last newsletter of 2012, so let us take this opportunity to wish you a very happy Thanksgiving, healthy and joyful holidays, and all the best in the New Year and for many years to come.

With best regards,

*Frank K Eggleston, DDS*

**Frank K. Eggleston, DDS**  
*Chairman of the Board*

*James E. Key*

**James E. Key, MD**  
*Fund Drive Chair*

*Katharine Orton*

**Katharine Orton**  
*Fund Drive Vice-Chair*

**Retina Research Foundation**  
**1977 Butler Boulevard**  
**Houston, Texas 77030**  
**713-797-1925**  
**[www.retinaresearchfnd.org](http://www.retinaresearchfnd.org)**

# Nutritional Tips for a Healthy Holiday Season

by Julie Mares, PhD

The easiest and probably the most important way to increase the health benefits of your diet is to eat more plant foods!

- They**
- Provide over a dozen vitamins and minerals that participate in over a thousand activities to keep your body running efficiently;
  - Provide phytochemicals that act in a number of ways to prevent the cell damage that can lead to disease;
  - Provide an excellent source of fiber for a healthy digestive system and to help blood sugar rise slowly after a meal.

These important nutrients specifically help your eyes.

- They**
- Act as antioxidants to fight the free radicals that could cause eye damage;
  - Provide the pigments lutein and zeaxanthin that absorb excessive light in the eye;
  - Protect against inflammation.

Popeye was right!!!

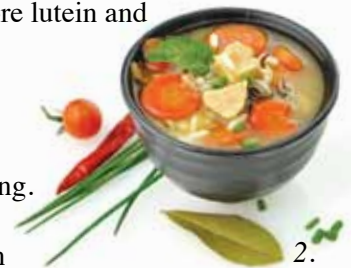
Dark green leafy vegetables like spinach, kale and broccoli are especially good for you because they are packed with many vitamins and minerals. Additionally, these dark-green, leafy vegetables provide 10-20 times more lutein and zeaxanthin (nutrients believed to support good vision) than other fruits and vegetables.

## Hint: Add More Vegetables to the Dishes You Make

**Soups:** Add a few handfuls of spinach or kale to soups or stews in the last 10 minutes of cooking.

**Omelets:** Add fresh, steamed or cooked spinach or sautéed red pepper to omelets. Eggs contain lutein and zeaxanthin that are especially easily absorbed into our bodies. Add dark leafy greens alone or with other vegetables (such as onions, garlic and tomatoes) to make a tasty and healthy breakfast, lunch or supper.

**Try Roasting:** Roast a variety of chopped or sliced root vegetables (carrots, sweet potatoes, parsnips, turnips) tossed with a few tablespoons of oil, a little fresh or powdered ginger, sprinkle of salt, and a tablespoon of maple syrup. Bake 50 minutes at 425 degrees, or until tender.



*A team of investigators led by Julie Mares, PhD, and Barbara Blodi, MD, (University of Wisconsin, Department of Ophthalmology and Visual Sciences, and McPherson Eye Research Institute) studied women's lifestyles in relation to subsequent prevalence of age-related macular degeneration (AMD).*

*The study found that a combination of three healthy behaviors (healthy diet, physical activity, and not smoking) reduced risk for early AMD by as much as three-fold when compared with those who had unhealthy lifestyles. Results were published in 2010 in the Archives of Ophthalmology online.*



1. Julie Mares, PhD 2. Soup 3. Basket of eggs 4. Root vegetables



# A Link Between Alzheimer's Disease, Diabetes and the Retina

Researchers from the University of Medicine and Dentistry of New Jersey (UMDNJ), collaborating with scientists from Northwestern University in Illinois, have provided direct experimental evidence that diabetes is linked to the onset of Alzheimer's disease.

The study, published online in the *Journal of Alzheimer's Disease*, used an experimental model that shows potential as an important new tool for investigations of Alzheimer's disease and of drugs being developed to treat Alzheimer's.

UMDNJ researchers Peter Frederikse, PhD, and Chinnaswamy Kasinathan, PhD, collaborated with William Klein, PhD, at Northwestern University to build on prior studies from the Klein lab and others that indicated close links between Alzheimer's disease and diabetes. "The results were striking," Frederikse said. "Our study shows – for the first time directly – the link between Alzheimer's and diabetes."

**The researchers found significant amyloid beta pathology, a hallmark of Alzheimer's disease, in the retina concurrent with diabetes.** By contrast, when diabetes is not present, no observable pathology was detected in either the brain or the retina.

**"Second, our study examined the retina, which is considered an extension of the brain, and is more accessible for diagnostic exams,"** Frederikse added. **"Our findings indicate that scientists may be able to follow the onset and progression of Alzheimer's disease through retinal examination, which could provide a long sought after early-warning sign of the disease."**

Previous research indicated that insulin plays an important role in the formation of memories. "In light of the near epidemic increases in Alzheimer's disease and diabetes today, developing a physiological model of Alzheimer neuropathology has been an important goal," Kasinathan added.

<http://www.newswise.com>



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5. Peter Frederikse, PhD

6. William Klein, PhD

# Novel New Therapy Compound May Prevent Damage to the Retina in Diabetic Eye Diseases

Researchers at the University of Michigan Kellogg Eye Center have identified a compound that could interrupt the chain of events that cause damage to the retina in diabetic retinopathy. The finding could lead to a novel therapy that targets inflammation and the weakening of the blood barrier that protects the retina, two mechanisms at the root of the disease.

In diabetic retinopathy, damage to the retina results, in part, from the activity of vascular endothelial growth factor (VEGF), a protein that weakens the protective blood-retinal barrier. Recent drugs targeting VEGF have exhibited good response for nearly half of the patients with diabetic retinopathy. But researchers believe that there is also an inflammatory component that may contribute to the disease process.

The study, published in the *Biochemical Journal*, June 2012 [epub ahead of print] identifies a specific protein common to both pathways as an important target in regulating the disease process in which blood vessels become leaky, and provides a drug that may be developed into a therapeutic intervention for patients in which anti-VEGF treatment alone is not sufficient.

David A. Antonetti, PhD, reported that the compound targets atypical protein kinase C (aPKC), required for VEGF to make blood vessels leak. Moreover, Antonetti's laboratory has demonstrated that the compound is effective at blocking damage from tumor necrosis factor, also elevated in diabetic retinopathy, which comprises part of the inflammation.

“This is a great leap forward,” says Antonetti. “We’ve identified an important target in regulating blood vessel leakage in the eye, and we have a therapy that works in animal models. Our research is in the early stages of development. We still have a long way to go to demonstrate effectiveness of this compound in humans to create a new therapy, but the results are very promising.”

<http://news.bio-medicine.org>



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7. David Antonetti, PhD

8. Diabetes Awareness Month

# Meet the Advisory Trustees

## Radford P. Laney

A real estate investor, financial manager, rancher and petroleum entrepreneur within global areas; married to Betty Louise since 7 July 1968; four children and seven grandchildren.

A forty-six year veteran within the petroleum industry, with the majority of the time devoted to the international arena. A Gulf of Thailand discovery has provided essential hydrocarbons to a country with tremendous growth and appears to be the largest discovery ever in Thailand. The opportunity for this successful career resulted from a position in a major oil and an independent exploration/production company for development and knowledge within the geological, geophysical, engineering, economic, finance, legal, tax and accounting disciplines.

### Memberships and Affiliations:

- American Chemical Society (ACS);
- American Association for Petroleum Geologists (AAPG) and Foundation Trustee;
- Houston Geological Society;
- Hungary Geological Society;
- Society of Exploration Geophysics (SEG);
- Denny Society of University of Alabama.

## Barbara Monroe Kirsch

A native Houstonian, married Jack Kirsch and worked for his company for 23 years as Secretary/Treasurer, graduated from Houston Baptist University with a double major in management and marketing, had her own business in health care, currently enrolled in a PhD program – international market trading and finance.

Extensively involved for many years in the Houston Medical Center, serving on several boards, philanthropy, and volunteering. Other interests are travel, playing the piano, knitting and gardening.

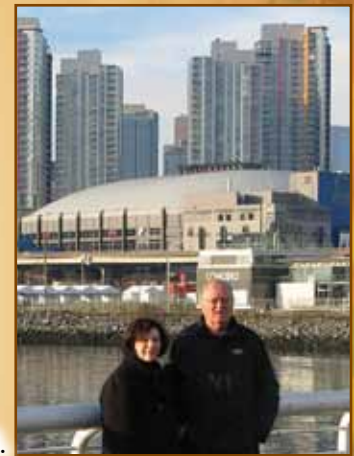
### Memberships and Affiliations:

- Blue Bird Circle – Board Member; served as Clinic Chairman for the Blue Bird Circle Pediatric Neurology Clinic at Texas Children’s Hospital;
- Life member of the Methodist Hospital Service Corps – 29 years (worked in Ambulatory and Main surgery);
- Institute of Spirituality & Health at the Texas Medical Center, Houston Opera, Houston Ballet, Houston Symphony, Wortham Center, American Museum Society, Trees of Hope, Harris County Heritage Society, The Museum of Natural Science, Houston Baptist University, Baker Institute Roundtable at Rice University.

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9. Radford P. Laney

10. Phil with wife Betty in Vancouver, Canada

11. Barbara Kirsch



FREE MATTER  
FOR THE  
BLIND OR  
HANDICAPPED

**RETINA RESEARCH FOUNDATION NEWSLETTER**

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**Editor in Chief:** Alice McPherson, M.D.  
**Managing Editor:** Margaret Faresse

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

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Change name or address as shown on address

Remove name from mailing list.

## RRF Chair and Professorship Appointments Announced

**Walter H. Helmerich Chair and Associate Director, McPherson Eye Research Institute**  
Akihiro Ikeda, DVM, PhD

**Kathryn and Latimer Murfee Chair, McPherson Eye Research Institute**  
Arthur Polans, PhD

**M. D. Matthews Professor, McPherson Eye Research Institute**  
Nansi Jo Colley, PhD

**Rebecca Meyer Brown Professor, McPherson Eye Research Institute**  
Aparna Lakkaraju, PhD

### SPECIAL REMEMBERANCES

**IN MEMORY OF**

**Saunders Gregg**  
The Elkins Foundation

**Lorine Crumpler Humble**  
Bettie Harding Lee  
Lillian B. Wallace

**IN HONOR OF**

**Dr. Richard Fish**  
Mary Virginia Jacobs

**Dr. Arthur W. Willis**  
Betty Whitt

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Howard Sides

RRF accepts credit cards for donations securely online at [www.retinaresearchfnd.org](http://www.retinaresearchfnd.org)  
Call the office for more information: 713-797-1925