



The newsletter of the...

American Foundation for Aging Research

AFAR

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The American Foundation for Aging Research is solely dedicated to granting scholarships and fellowships to innovative young scientists utilizing cutting-edge technology to study age-related diseases.

American Foundation for Aging Research Thanks Supporters as 25th Anniversary Campaign Continues!

Dear Friends and Supporters of Aging Research,

We hope that all of you are thoroughly enjoying your summers and keeping cool with friends and family! This year, the Foundation began its fundraising effort in support of our twenty-fifth anniversary. Thanks to several generous contributors, we have been able to award four new fellowships since our last newsletter. Fortunately, the number of promising young scientists applying for assistance continues to increase, and we hope to keep up this pace throughout the rest of the year. Please consider using the enclosed envelope to support aging research. The letters we receive from awardees consistently reflect their great appreciation for your support as they research such important topics as heart disease, cancer, Alzheimer's, and diabetes.

We would specifically like to thank Marie Walsh, a 2004 awardee, who volunteered to raise money for the Foundation through pledges from friends and family in support of her participation in the 2004 Boston Marathon in April. Marie was able to collect over \$600 to go towards aging research. On page 4 you will find the note Marie sent to the Foundation after completing the race. Thanks to Marie for giving back to the Foundation and allowing other young scientists like herself to benefit from her hard work!

Finally, we would like to welcome a new member to our Board of Directors. Dr. Vincent Cristofalo currently serves as President of the Lankenau Institute for Medical Research in Wynnewood, PA and is extremely well-known in the field of aging research. We look forward to having him share his knowledge and input with the Foundation.

Thank you for your continued support!

Sincerely,
Paul F. Agris

President

In This Issue.....

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“And in the end, it's not the years in your life that count. It's the life in your years.”
-Abraham Lincoln



Awardee Marie Walsh poses in her AFAR t-shirt before running the Boston Marathon.

The following is a letter from awardee Marie Walsh. Marie donated sponsorships she collected for running the Boston Marathon to AFAR. Marie was profiled in the last AFAR newsletter.

“AFAR-

Thank you so much for your generous support which helped me to complete my master's research work and degree.

Over this past year, the Foundation (as well as its supporters and employees) has earned a special place in my heart. You all have been a source of encouragement and confidence for me.

I'm certain that having your support played a role in my being accepted to medical school at The University of Missouri, Columbia.

As I begin the next step in my career, I hope the choices I make and the things I accomplish will honor the Foundation and make you proud to have played a role during the very beginning of my career.

Thank you!

Marie Walsh”

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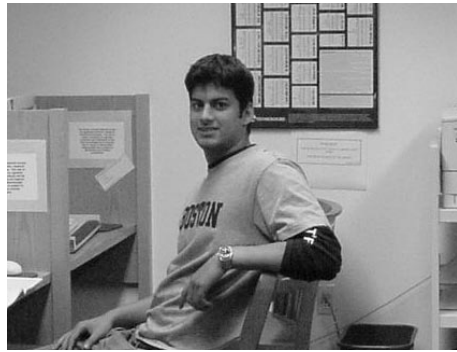


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Recent Fellowship Recipients

**Ansuman Satpathy,
University of Illinois, 2004 Awardee**



Nearly 17 million Americans suffer from Type 2 Diabetes. Type 2 diabetics are 2-4 times more likely to have atherosclerosis and suffer a stroke than non-diabetics and have increased morbidity and mortality from a stroke event. Unfortunately, the cause of the increased propensity for and impaired recovery from stroke and accelerated atherosclerosis is poorly defined. My research focuses on determining which immune mediators are responsible for this difference. So far, we have reported that pro-inflammatory cytokines are dysregulated in the diabetic immune response. Our future directions are to combat this effect by administering various anti-inflammatory cytokines or by upregulating negative regulators of the pro-inflammatory pathways in the central as well as peripheral systems of the body.

Jessica Green, University of Alabama at Birmingham, 2004 Awardee

About 60% of cancers and over 50% of cancer deaths occur in people over the age of 65. Breast cancer, one of the leading causes of death in older women, provides a specific area of research that is beneficial to the aged population. Retinoids have been shown to be an effective treatment for breast cancer, but the toxicity levels produce unwanted side effects. UAB30 is a retinoid derivative that has been shown in some preliminary studies to have a reduced toxicity. This study of UAB30's effects on cancer cells may potentially identify it as a better choice than currently used retinoids in chemotherapy.

In The News...

Does Calorie Restriction Extend Life?

For decades, scientists have observed that in the face of scarce resources, animals curtail calories in exchange for an extended life span. But how does this relate to humans and the aging process? According to Jennifer Couzin, *Science* magazine correspondent, MIT researcher Leonard Guarente and his former postdoctoral fellow David Sinclair are battling over their theories of how a certain gene extends the life of rodents.

Guarente and colleagues at MIT found a gene that exists in yeast which appeared to dramatically slow aging when calories were cut. The gene, called SIRT2, is similar to one they found in mice (SIRT1). Competing research by the two scientists has found a parallel between the two genes.

Sinclair's lab at the National Institute on Aging in Bethesda, Maryland put rats on low-calorie diets and found that their liver, kidney, brain, and fat tissue all showed above-normal levels of SIRT1 protein. Then, they immersed human cells in serum from the rats on the low-calorie diets and found a rise in SIRT1 levels, which protected them from cell death. He guessed that the lowered insulin in calorie-restricted animals was the key.

At the same time, Guarente focused on fat, which calorie-restricted animals that live long lives lack. He found that mouse cells overexposed to SIRT1 stopped turning into fat and even shed fat that had already developed. It is unclear why reducing fat would extend the life of mice, but mice engineered to have less of it do live longer lives.

These studies show that "genes that regulate fat cell development and mobilization...are under the control of SIRT1," says Eric Verdin, a molecular biologist at the Gladstone Institute of Virology and Immunology at the University of California, San Francisco.

Although these findings are just the beginning of a complicated study, Sinclair and Guarente continue to examine the link between calorie deprivation and long life in rodents hoping to beat the other to the discovery that SIRT1-based drugs can fight obesity or extend the life of humans.

Nancy Reagan's Remarks Spark Support For Stem Cell Research

Even though it is as yet uncertain whether or not stem cell research has the potential to cure Alzheimer's Disease, Ronald Reagan's recent death and his widow's call for action have both caused many Americans to stop and think about this hotly debated issue.

In late June, Boston Globe correspondent Bobby Caina Calvin reported that a \$3 billion stem cell research initiative has qualified for the ballot in California. Backers are hoping that the support of Mrs. Reagan and her son Ron will provide needed momentum to get the California initiative passed.

"Science has presented us with a hope called stem cell research, which may provide our scientists with answers that have so long been beyond our grasp. I just don't see how we can turn our backs on this..." Nancy Reagan said on May 9 at an event that marked her first public statement supporting stem cell research.

Her remarks prompted another wave of supporters urging President Bush to soften his 2001 policy that put restrictions on the use of stem cell lines already in existence as well as the creation of new ones. The President, however, has said he will stick with his original policy.

Much like the abortion debate, the topic of stem cell research has brought about a moral controversy. In order to harvest embryonic stem cells, embryos must be destroyed. Some also fear that the technology developed for this research could lead to reproductive cloning.

Although stem cell research's potential to treat Alzheimer's Disease is less certain, "embryonic stem cells are of particular interest to researchers seeking cures or therapies for chronic and life-threatening diseases, particularly juvenile diabetes and Parkinson's Disease".

Please visit our website at:
<http://www.AmericanAgingResearch.org>

Summer Reading Suggestion:

"Living To 100"
By Thomas Perls



With currently more than 50,000 centenarians in the U.S., the over-65 population has become an intriguing group to many. Harvard Medical School Professor Thomas Perls, founder of the New England Centenarian Study (NECS) recalls the most interesting results of this study of some of the nation's oldest people in his book "Living to 100: Lessons in Living To Your Maximum Potential at Any Age". As featured in Time, on Good Morning America, National Public Radio, and Dateline, the book draws on the results of the NECS and gives the latest findings on aging, exposes popular myths, shares personal profiles of centenarians, and contains helpful information and quizzes. According to a review on Amazon.com, "[This book] presents a groundbreaking and hopeful vision of longevity – soon to be a reality for more of us than ever before".

Full-Body CT Scans: Too Good To Be True?

Everyone wants to uncover problems while they are still treatable, but the promise of a technology that "takes a look" at people's insides to detect warnings of cancer, cardiac arrest, and other abnormalities may be too good to be true.

According to the Food and Drug Administration (FDA), clinics and medical imaging facilities are marketing the CT screening service to health-conscious people with no symptoms of disease. Although the process is known to be a valuable tool for the diagnosis of people with signs of disease, what's different is that it is now being touted as a proactive health care measure.

Because CT scans result in relatively high radiation exposure, the benefits are questionable for asymptomatic people. The FDA recommends that patients discuss potential risks with their doctors before having the full-body CT scan.