

Honoring and Remembering Dr. Vincent Cristofalo



Vincent Cristofalo

AFAR mourns the loss of board member Dr. Vincent J. Cristofalo who passed away this May of 2006. Dr. Cristofalo was a pioneer in biogerontology, shaping this descriptive science into one of mechanisms that hold the keys to healthier life spans.

In the late 1960's Dr. Cristofalo taught biochemistry at the University of Pennsylvania's School of Veterinary Medicine. He went on to become president of the Lankenau Institute for Medical Research, vice provost for research at medical College of Pennsylvania and Hahnemann University and director of the Allegheny Health, Education and Research Foundation Institute on Aging and the Center for Gerontological Research at the MCP Hahnemann School of Medicine.

Perhaps one of Dr. Cristofalo's most unique and powerful contributions was his vision of and dedication to multidisciplinary education and research. In all of his leadership, education and research positions, he valued communication and collaboration between scientists and scholars committed to aging research and issues.

While multitudes will know him for his ground breaking professional achievements, his many friends, family, colleagues and students will cherish the wisdom, generosity and integrity with which he acted. As testimony to his character, Dr. Cristofalo's most valued research paper was the one that challenged his long standing advocacy of cell senescence in culture as a model for the study of aging.

Dr. Cristofalo is survived by his loving wife of 42 years, the former Margaret Follet. Also surviving are his six daughters, Carolyn Mutreja, Jean Looney, Dr. Elizabeth Cristofalo, Meg Cristofalo, Catherine Cristofalo and Helen Cristofalo. AFAR plans to honor Dr. Cristofalo and his life's work at its November Symposium and with the formation of a memorial fund in his honor.

Recent Fellowship Recipients



Margot Bowen

**Duke University
Class of 2008
Mentor: Dr Amy
Bejsovec
Department of Biology**

The highly conserved Wingless (Wg/Wnt) signal transduction pathway plays a role in pattern formation and establishing cell fates in developing embryos, and is associated with cancers when inappropriately activated in adults. We use *Drosophila* as a model organism to study the components of this important pathway. Two mutations, *SI2* and *SI4* (*SoxNeuro interactor 2* and *4*), were isolated through their interactions with *SoxNeuro*, a recently identified negative regulator of the Wg pathway. We are currently mapping *SI2* and *SI4* to determine what genes they disrupt and we are studying their potential roles in the Wg pathway.



**Gerald
Nagatani**

**University of
Southern California
School of Pharmacy**

It is important to know how the gastric H,K-ATPase (proton pump) functions and is regulated to control acid secretion. Millions of Americans are adversely affected by problems in controlling gastric acid secretion, which plays a major role in the formation of ulcers and may also damage the esophagus leading to more serious conditions as we age. In addition, 10-20% of people over the age of 65 are deficient in acid secretion, which impacts not only digestive processes and nutrition, but also the bioavailability of many drugs...*continued page 3...*

We are researching the effects that cellular membrane components known as phospholipids as well as an enzyme modification known as ubiquitination have on H,K-ATPase function. New drugs that target these aspects of gastric H,K-ATPase regulation may be found through this work.

David Kordys
North Carolina State University, PhD Student
Department of Biochemistry

David is conducting biochemical research on the neurological plaques and tangles seen in Alzheimer's disease. His goal is to use advanced imaging and mapping techniques to develop peptides that will impede caspase-3 activity. This molecule is known to accelerate the production of the plaques and tangles seen in Alzheimer's patients.

Ben Jacquet
North Carolina State University, PhD Student
Department of Zoology

Understanding the cellular mechanisms that underlie neuromuscular junction (NMJ) weakening and rearrangement in older individuals would provide insight into ways to help prevent this progressive loss of functionality. Traditionally, the death of motoneurons has been thought to originate in the central nervous system (CNS or brain and spinal cord) and progress toward the peripheral nervous system (PNS or the sensory and movement nerves that make up your body). We believe that nerve signals in the body can induce death in the nerve cells of the brain and spinal cord. Factors in the brain and body may work together to speed up muscle and neurological degeneration.

Fatih Mercan
Yale University, PhD Student
Department of Neurobiology

Fatih is conducting biochemical research on differences in muscle function, activity, exercise and muscle regeneration in young versus old animal populations exhibiting genetic differences. The aging related loss of muscle mass (sarcopenia), and strength has a detrimental impact on locomotor performance in old age, which contributes significantly to the morbidity, decrease in quality of life, and health care costs in the elderly.

The regulatory signaling mechanisms for muscle maintenance and function are poorly understood. Therefore, it is important to understand the mechanisms of age-related muscle loss in order to be able to find ways to improve the life quality of the elderly and possibly prevent muscle loss.



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Donation checks may be sent to:

American Foundation for Aging Research
Biochemistry Department
North Carolina State University
Campus Box 7622
Raleigh, NC 27695-7622

Contributions may be made in honor of individuals, in memory of loved ones, or to recognize special occasions.

Contributions to the American Foundation for Aging Research are greatly appreciated and wisely used!

Financial reports are available upon request.

Support Comes From

The North Carolina GlaxoSmithKline Foundation
Wal-Mart, Glenwood Avenue, Raleigh NC
The North Carolina Biotechnology Center
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The Roberta and Ernest Scheller, Jr. Family Foundation



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Dr. Paul Agris and Family

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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.

GIVING THANKS & SAVING LIVES

Message from the President:

AFAR has had an amazing year, and the best yet ahead as we prepare to host our first biennial AFAR-GlaxoSmithKline Foundation Symposium on November 17th at the North Carolina Biotechnology Center in Raleigh, NC. We are honored that recent Nobel Laureate Dr. Irwin Rose will our keynote speaker.

This event is sponsored in part from a generous grant AFAR received from the GlaxoSmithKline Foundation of North Carolina and will recognize dozens of our recent fellowship awardees. With the help of our generous members, and local businesses, AFAR doubled the number of awards it has given in the past year. However, we receive far more qualified and promising applicants than we can.

Now is the perfect time to contribute in addition to the renewal of your annual support. We have enclosed an envelope for the purpose of giving AFAR a special contribution in honor of someone or to match the NC GSK award. By doing so, you enable AFAR to give financial aid to student-researchers. Since 1979, AFAR has provided several hundred thousand dollars to deserving and promising undergraduate, graduate and medical students involved in research on age-related diseases and the biology of aging. These students have investigated age-related cancers, neuro-degeneration, immunology, biology of cell cycle and cell death, neuro-endocrine interactions and many other subjects. Several students supported by your donations are listed in this issue.

As the costs of education and science continue to increase, so decreases the number life saving research studies and researchers. We ask you to give generously for young students whose research will impact our lives in the predictable ways of new therapies and therapeutics, and in ways we cannot imagine that will enhance the healthfulness of our lives.

For all the students, AFAR thanks you. They look to you as their heroes; for with your support, their education, conviction to find answers to age-related health problems, and career dreams become all the more real.

May you and yours enjoy a happy Thanksgiving and Holiday Season.

Paul F. Agris

President and Founder of the American Foundation for Aging Research

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A little knowledge that acts is worth infinitely more than much knowledge that is idle.
- Kahlil Gibran