

TOP TEN THINGS YOU CAN DO TO LEAVE A LEGACY

We all have seen 'Top Ten Lists.' Often they are funny, sometimes thought-provoking. Here's a top ten list that just might be the most important one you could consider:

- Prepare a will; fewer than 40 percent who pass away have one. Without a will, you may lose control over assets upon your death.
- Leave a gift in your will for TBRI and other charitable organizations that have made a difference in your life.
- Leave a specific dollar amount or a percentage of assets to TBRI.
- Consider various assets for your charitable gift: IRA's, savings bonds, stocks, CD's, real estate or personal property.
- Name TBRI as the beneficiary of your pension or IRA.
- Purchase a new life insurance policy naming TBRI as your beneficiary.
- Name TBRI as beneficiary of an existing policy.
- Remember loved ones with a memorial gift to TBRI.
- Encourage family and friends to leave gifts to nonprofits like TBRI in their wills.
- Consider establishing a life income gift that will provide current income to you and your loved ones now and a significant gift to TBRI later.

Your gift to TBRI will help ensure that TBRI can continue the study, cure and prevention of chronic diseases. Please call Paul Dietrich, gift planning advisor, at (727) 576-6675, ext. 123 for more information on how your gift can make a difference.

Welcome Mike Burrows!



For those of you who haven't yet met him, Mike Burrows arrived in the Tampa Bay area last year after finishing his M.S. degree in Immunology at the University of Nebraska Medical

Center in Omaha. Before that, he earned a B.S. degree in Microbiology from the University of Illinois. He is originally from Maldon, England, and Florida is now his twelfth state of residence while in the U.S. He says that TBRI is a place with wonderful people dedicated to helping others in need, and he is happy to be in a position to contribute to their efforts.

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ANNUAL COMMUNITY RECEPTION October 7, 2008

Jill Cramer RN MCM
John Jessip M.A.

At this year's Annual Community Reception, supporters of the Institute were privileged to hear the keynote address by Dr. Grant McFadden, Professor of Molecular Genetics and Microbiology at the University of Florida. Dr. McFadden is a creative scientist and excellent teacher who studies the interactions between viruses and cells. The timing of the speech was auspicious—the 2008 Nobel Prize in Medicine, which was awarded the day before the talk, went to researchers in the field of virology for their work on the AIDS virus (HIV) as well as the human papilloma virus (HPV), which has been linked to cervical cancer.

Having spent the day at TBRI, Dr. McFadden stated that he had found the Institute's research programs to be quite interesting and thanked the audience for their continued support of the work being conducted at TBRI.

Dr. McFadden referred to himself as an "old-fashioned biologist" who, motivated by curiosity, chooses his research based on the need to obtain results that will truly impact the delivery of innovative medical therapies. Citing such notable achievements of science as the development of antibiotics and the eradication of smallpox, he continues to search for effective responses to threats to human health in a world that is "flooded with viruses."

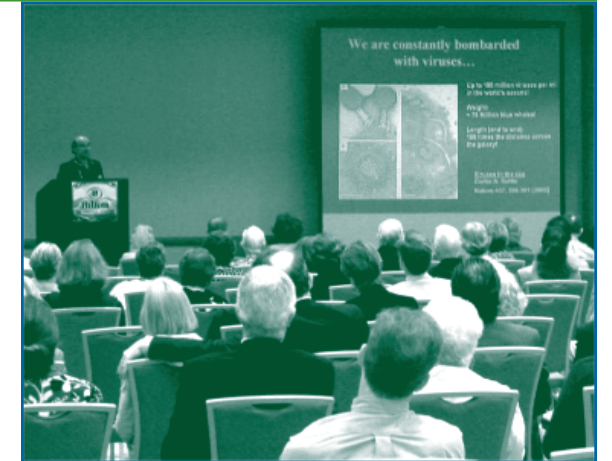
Dr. McFadden succeeded in holding the attention of the audience in what could have otherwise been a rather esoteric academic lecture. He noted that although we are surrounded by viruses, not all are harmful to humans. In fact, these very sophisticated "warlike" viruses have taught him much about the workings of the immune system.

He briefly discussed host-restricted pox viruses, emergent and re-emergent diseases and the monkeypox outbreak in 2003. He brought humor to his talk by telling the story of rabbits introduced into Australia in the mid-1800s and how that relates to the progress being made in developing better cancer therapies. Of particular interest to many in the audience was the use of stem cell transplants as a possible way to treat cancer.

Researchers have discovered that viruses can deploy "decoy" receptors, similar to drugs, which can hamper the functioning of the immune system. However, such receptors can also be developed for beneficial effect, such as those currently being studied at Viron Therapeutics, a spin-off biotech company founded by himself and Dr. Alexandra Lucas, a cardiologist at the University of Florida. Preliminary results indicate that such receptors may ameliorate the development of heart disease caused by chronic inflammation.

Dr. McFadden left the audience with the knowledge that viruses have much to teach us about how the immune system functions. Research, such as the ongoing programs at TBRI, will provide the basis for developing innovative medical therapies.

The event concluded with a short talk by Mr. Mike Conkle, who thanked TBRI and Allera for their work and dedication in making ImmunExtra™ available to the public. He noted that he has been cancer-free from a type of lymphoma for 30 months with the help of ImmunExtra™. In his words, "I firmly believe that I owe my life to the pine cone extract. Thank you, TBRI." He urged audience members to recommit themselves to support TBRI, thus forming a vital partnership to help those with serious diseases.



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TABLE OF CONTENTS Fall 2008

President's Message	2
Chairman's Message	2
Sammy - The Scientific Spy	3
Top Ten Things You Can Do To Leave a Legacy...	4

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Chairman's Message

Barbara Sheen Todd

Important news for you from the Tampa Bay Research Institute (TBRI) in St. Petersburg: We were awarded two patents this year—an incredibly significant achievement!

In awarding these patents, the U.S. Patent Office acknowledged that the

pine cone extract (PPC) increases the effectiveness of vaccines and drug therapies. The potential for increasing the effectiveness of treatments like chemotherapy is a real possibility! TBRI is also in the process of applying for one additional patent.

We are delighted to know that our research is on the right track to eradicate cancer and infectious diseases. Our scientists continue to work hard as they seek new opportunities and discoveries that will benefit those who suffer from chronic diseases.

In 1981, Tampa Bay Research Institute (TBRI) was founded as the first independent 501(c)(3) not-for-profit biomedical research institute in the state of Florida. By applying the modern technologies of Western science, TBRI scientists seek to explain

the wisdom imbedded in the practice of Eastern medicine. Our research program on a pine cone extract is an excellent example of this approach to "integrative medicine."

Our local legislators, Representative Jim Frishe and Senator Mike Fasano, introduced two bills in the last session of the state legislature to fund such life-saving biomedical research. While the bills did not pass last year, we are hopeful that our positive message will make a difference this year as we seek legislative assistance to fund our research in the upcoming legislative session. With financial support from Tallahassee, Floridians and all of humankind will benefit from our groundbreaking research efforts.

We urge all our supporters to contact their legislators and ask them to consider and support pending bills to further biomedical research at the Tampa Bay Research Institute. Your help is crucial and can make a positive impact in the passage of this important legislation.

In these challenging economic times, your financial support is more important than ever. Please help us continue our mission.

President's Message

Dr. Akiko Tanaka



According to recent statistics, Florida ranks 11th in the U.S. in deaths due to melanoma (3.0 per 100,000 population), which is a malignant form of skin cancer (National Cancer Institute's 2004 State Cancer Profiles). In addition, Florida ranks first in the nation in the percentage of the population age 65 and older (17.6%) (U.S. Census Bureau, 2000). Since cancer incidence, including melanoma, rises markedly with age, it is critical that we aggressively seek treatments and a cure.

Historically, the focus of the research conducted at TBRI has been on exploring the connection between infectious agents and the induction of cancer, as well understanding the molecular virology of viruses. At an early stage of the HIV/AIDS epidemic, TBRI became the first biomedical research institute in Florida to receive a grant from the State to study this devastating disease. We subsequently received a grant from the National Institutes of Health (NIH) under the New Drug Development for HIV/AIDS Program. That inaugural work led to our comprehensive study of a plant extract derived from the pine cone, termed PPC (a polyphenylpropenoid-polysaccharide complex). Our vigorous research efforts have resulted in the award of nine patents to date.

We have completed a collaboration with a research group at the University of South Florida (USF) in Tampa on a melanoma study in mice. These experiments employed a unique therapy, ECT (electrochemotherapy), which involved the use of electric pulses in conjunction with chemotherapy to treat a form of melanoma. Profound results have been obtained, in which the cure rate in mice increased from 30% to more than 90%—but only when

they were provided with PPC in the drinking water in combination with ECT ("Extract of Pine Cones Augments Tumor Response to Electrochemotherapy," Jaroszeski et al., Abstract, 2006 AlChE Annual Meeting). The key to success was the combination therapy, not ECT alone. This suggests that PPC may be acting as an adjuvant (or as a chemist might say, like a catalyst).

Through many years of research, we have obtained evidence which indicates that PPC, when combined with conventional anti-cancer therapies such as chemotherapy and radiation, may significantly reduce the size of tumors in late-stage cancers, including melanomas.

What makes this incredibly significant is that at the present time there are very few adjuvants that are sufficiently safe and effective to have won FDA approval. Those that are in use have the risk of serious side effects at the injection site. The benefits of using PPC as an adjuvant are two-fold: 1) the convenience of oral administration, and 2) the activation of dendritic cells, which play a central role in determining and optimizing the body's overall immune response. Previously, our scientists have confirmed that dendritic cells are activated by PPC.

As the first independent biomedical research facility in Florida, TBRI is proud of its 27 years of research and accomplishments—but so much more needs to be done!



Sammy The Scientific Spy

We at TBRI had the privilege of adopting Sammy, a Border Collie, who soon became an integral part of our Institute. Unfortunately, after several years with us she eventually succumbed and was laid to rest in early 2006. As Border Collies usually are, Sammy was sublimely intelligent and perceptive. She was a first-hand witness to many notable events here at TBRI and is deeply missed. Sammy, our "Scientific Spy," left us with a legacy to serve the public by providing useful health information! - Akiko Tanaka, Ph.D., President

SAMMY SPEAKS:

Sniff! Sniff!

available laboratory instruments. We canines have great noses, able to sniff many chemicals at miniscule levels—down to even a few parts per trillion. Think about that: one part per trillion (ppt) is equivalent to one drop of liquid dispersed over the volume of 660 railroad tank cars. Such a train would be over six miles in length!

SPECIES CONFIDENTIAL: Why do we doggies do the (ahem) "close-up examination" when we first meet other dogs? Well, I think it has evolved to detect the health of the other dog. When you humans meet, you typically greet each other with a handshake and a "How are you?" followed by the usual "fine" (even if you aren't so "fine"). We dogs have a similar greeting, but use a highly refined organ—and we get a much more honest answer. It is known that cancer patients exhale trace amounts of certain chemicals such as hydrocarbons, so it may not be so far-fetched to call on our dog companions to help in the battle against cancer.

MELANOMA: In England, an early research article suggested that dogs may be able to sniff out various forms of human cancer, including melanoma (H. Williams and A. Pembroke, Lancet 1:734, 1989). Further supporting evidence was published several years later (J. Church and H. Williams, Lancet 358:930, 2001). In this article, the authors describe the case of a Labrador retriever which persistently sniffed at a patch of eczema on his owner's leg, which later turned out to be basal cell carcinoma. After it was removed surgically, the dog showed no further interest in the area. A more recent study confirmed these pooch skills (D. Pickel, et al., Appl. Animal Behav. Science 89:107, 2003)

LUNG AND BREAST CANCER: Lung and breast cancers appear to be accurately detected by dogs (99% accurate for lung cancer samples, 88% accurate for breast cancer samples) (M. McCulloch, Integrative Cancer Therapies 5:30, 2006). Within a matter of weeks, ordinary household doggies had been trained to accurately distinguish breath samples of breast and lung cancer patients from healthy controls. The authors concluded that cancer patients may be exhaling certain chemicals unique to cancer.

CONCLUSION: Although POOCH scans appear to be much more accurate than predicted by random chance, it is still possible that dogs may be responding to scents related to inflammation, bleeding, infection, or the presence of chemical by-products (such as those from cigarette smoking). Also, the proper selection and training of detection dogs is very important. Furthermore, some tumors may not give off a detectable scent. Future experiments may very well require larger samples of dogs and varieties of scents to make them statistically meaningful. It will also be interesting to see if dogs can be trained to detect cancer in the very early stages of the disease. Perhaps your neighbor's annoying cocker spaniel could one day supplement—or even replace—the standard screening tests we now use.

Until next time, Bow-wow for now



TBRI has an urgent need for the following two Scientific Instruments

If you or your company can be of any assistance, please contact Mr. John Jessip of TBRI at 727-576-6675 ext. 124

SPECTROPHOTOMETER \$11,620

A spectrophotometer is an instrument used to measure the concentration of various biological materials based on the amount of light they absorb. As an example, a liquid sample such as protein or DNA has a characteristic absorbance value. Thus, by using exact wavelengths (colors) of light we can determine the amount or concentration of material in the liquid. This specific model of spectrophotometer enables us to make highly accurate measurements using extremely small amounts of precious sample. Indeed, a very small droplet is all that is required. Over 100 times this amount is needed to take the same measurement with our present instrument. Also, this new model does not require the use of sample containers, so it will prove to be more economical in the long run because there is no need to purchase consumable supplies.

EVOS MICROSCOPE \$7,780

This high-tech microscope can display images on a flat-screen color monitor. Traditional microscopes require that images be viewed through an eyepiece. In addition to having superior ergonomics for extended viewing sessions, this microscope also allows several scientists to examine the image simultaneously. Since the image is in digital form, it can be easily captured and transferred to a memory device or downloaded as a computer file. This instrument would provide a means to rapidly organize and archive cell images for further analysis and comparison. It would also be useful for instructional purposes because images can be displayed for the benefit of a classroom or conference audience.

A Heartfelt THANK-YOU!

We wish to extend our deepest appreciation to the Jacarlene Foundation and the Robert S. and Mildred M. Baynard Trust for their recent equipment grants. With these funds we were able to purchase a digital camera and imaging software. These tools have allowed us to gather more complete data on cells treated with the pine cone extract (PPC). We have also recently been able to purchase instruments that will allow us to extend our study of PPC beyond the test tube, helping us to lay the groundwork for possible clinical trials in humans in the not-so-distant future.