Vaccine Center Launches

Tackling the Top Cancer Killer

A Melanoma Patient’s Legacy
Wistar’s Leadership in ‘New Economy’ Fulfills Institute’s Mission

I’m often invited to give talks to community groups interested in the research conducted at The Wistar Institute. One talk may be to a group weighing the ethics of stem cell research, while another may be to a gathering interested in Philadelphia’s history as the birthplace of American medicine. More and more frequently, however, I am asked to discuss the driving role played by biomedical research in regional economic development.

The life sciences represent one of the fastest-growing sectors of the still-emerging “knowledge-based” economy, seen as the successor to the area’s historical industrial strengths. The field is responsible for important new drugs, vaccines, and other products coming to market from the major pharmaceutical companies headquartered in the Philadelphia area, and it spurs the creation of dozens of new biotechnology enterprises throughout the region each year. For Wistar, as a nonprofit organization, commercialization is also the path by which discoveries become treatments, preventions, and cures for the people who need them, a crucial step in fulfilling our mission of advancing human health through research.

The importance of this subject is underscored by a recent report from the CEO Council for Growth, an affiliate of the Greater Philadelphia Chamber of Commerce. “Accelerating Technology Transfer in Greater Philadelphia” concludes that technology transfer, the process by which discoveries move into commercial development, is key to Philadelphia realizing its potential as a center of economic development. I chaired the committee that commissioned the study, which has garnered significant attention including coverage in The Philadelphia Inquirer. My leadership in this area stems from Wistar’s history of commercial successes: for example, its vaccines against rubella, rabies (in humans and wildlife), and rotavirus are available around the globe, and monoclonal antibodies developed at Wistar helped launch Centocor, one of the world’s most successful biotechnology companies.

Wistar leadership in biomedical research will surprise few who know about our accomplishments, past and present. That we have long been leaders in building bridges from the laboratory to the marketplace is less well known but equally true. This is important work that provides a vital revenue stream to help Wistar maintain and expand its research. More importantly, however, engagement with the commercial sector ensures that Wistar science intended to save lives achieves that high purpose.

Russel E. Kaufman, M.D.
President and CEO

FOCUS is published two times per year for donors, friends, faculty, and staff of The Wistar Institute by the Office of Public Relations, 3601 Spruce Street, Philadelphia, PA, 19104-4265. To contact the editor, phone (215) 898-3943 or e-mail aporter@wistar.org. For general inquiries, contact The Wistar Institute at (215) 898-3700.

Send address changes to: Development Office, The Wistar Institute, 3601 Spruce Street, Philadelphia, PA 19104-4265.

FOCUS is published two times per year for donors, friends, faculty, and staff of The Wistar Institute by the Office of Public Relations, 3601 Spruce Street, Philadelphia, PA, 19104-4265. To contact the editor, phone (215) 898-3943 or e-mail aporter@wistar.org. For general inquiries, contact The Wistar Institute at (215) 898-3700.

FOCUS is published two times per year for donors, friends, faculty, and staff of The Wistar Institute by the Office of Public Relations, 3601 Spruce Street, Philadelphia, PA, 19104-4265. To contact the editor, phone (215) 898-3943 or e-mail aporter@wistar.org. For general inquiries, contact The Wistar Institute at (215) 898-3700.
The Wistar Institute has purchased a painting of its namesake, prominent Philadelphia physician Caspar Wistar, created by a celebrated artist and inventor with ties to the Philadelphia area. The Institute acquired the oil portrait by Bass Otis, who lived and worked in Philadelphia in the 1800s, from the Schwarz Gallery. It was part of the collection of the Mutual Assurance Co.

Widely respected as a physician and man of learning, Dr. Wistar became professor of chemistry at the medical school of the College of Philadelphia, now the University of Pennsylvania, in 1789 and became chair of Penn’s department of anatomy in 1808. He wrote the first American anatomy textbook and was an early advocate of vaccination. Learned in the humanities, he succeeded his friend Thomas Jefferson as president of the American Philosophical Society and hosted “Wistar parties” for leading intellectuals at his home at Fourth and Locust streets.

“We’re very proud of our history and the active role we have played in the scientific and cultural life of Philadelphia, reaching back to Caspar Wistar’s contributions to teaching and knowledge in the post-Colonial era,” says Russel E. Kaufman, M.D., Wistar president and CEO. “Our feeling is that this exquisite portrait of our namesake, painted by a significant American artist, belongs at The Wistar Institute, where we will be able to care for it in perpetuity. We’re delighted to have the opportunity to acquire the painting at this time.”

Dr. Wistar’s great-nephew, Civil War general Isaac Wistar, founded The Wistar Institute in 1892 in his great-uncle’s honor to preserve the doctor’s collection of anatomical specimens and teaching aids and further knowledge in the biological sciences.

The portrait was painted in 1816 by artist and inventor Bass Otis, a Massachusetts native and physician’s son who moved to Philadelphia in 1812 and established a studio at Third and Chestnut streets. There, Otis conceived his most famous invention, a drawing aid called the perspective protractor.

A master of portraiture, Otis is thought to have worked in the studio of renowned portraitist John Wesley Jarvis. Otis’s best-known sitters included Thomas Jefferson, Dolly Madison, James Fenimore Cooper, and William Henry Harrison, but most of his subjects were prominent members of the local middle class. He also designed flags and engraved handbills and is credited with being the first American lithographer.

Otis exhibited at the Pennsylvania Academy of the Fine Arts, was a member of the Franklin Institute of Science, and was elected an academician of the Pennsylvania Academy in 1824. Although active in several East Coast cities, he often returned to Philadelphia and died there in 1861 at age 77.

The Mutual Assurance Co. acquired the painting when it moved into the house formerly occupied by Dr. Wistar. The portrait joins a number of other historically significant works of art in the Institute’s collection.

Wistar president Russel E. Kaufman, M.D., admires the Institute’s newly acquired portrait of Caspar Wistar with Janet and Lew Klein, who made a generous ‘challenge’ gift of $10,000 towards the painting’s purchase. Contributions from members of Wistar’s board of trustees and the Wistar family also helped to make the acquisition possible.
In May, Wistar celebrated the launch of a collaborative research effort aimed at saving countless lives across the globe. The Wistar Institute Vaccine Center will focus on the development of new or improved vaccines for some of the world’s deadliest diseases: HIV, influenza, rabies, hepatitis C, malaria, and others.

“The new vaccines we are working to develop have important implications for public health because they can reduce disease and death from very common infections,” says Vaccine Center director Hildegund C.J. Ertl, M.D., professor and Immunology Program leader at Wistar. “We also are creating vaccines that will be effective not only in the United States and Europe, but in developing areas such as Africa and Asia as well.”

Ertl, who has 20 years’ experience in vaccine research and oversees major projects to develop vaccines against HIV, influenza, rabies, and human papillomavirus, was among the Wistar leaders who gathered to mark the center’s launch May 31 at the Institute.

Also present at the inauguration were members of the state government, donors to Wistar, media representatives, and key figures in education, biomedical research, and public health. Highlighting the event was an appearance by Pennsylvania Secretary of Health Calvin B. Johnson, M.D., M.P.H., who congratulated Wistar on its contributions to the nation’s public health accomplishments.

The Institute has several important vaccines to its credit, including the standard-of-care protections against rubella, rabies, and rotavirus. Extending Wistar’s history of accomplishment in vaccine development, the Vaccine Center will draw upon and focus the Institute’s strengths in immunology, virology, and other research disciplines.

“Science offers us the ability to deliver a whole wave of new life-saving vaccines in coming years,” notes Wistar president and CEO Russel E. Kaufman, M.D. “With its history of success in vaccine development, Wistar is poised to make vital contributions to this exciting and critically important area of medicine.”

Vaccines may be the greatest public health success story of all time, but that story remains unfinished. There are many infectious diseases for which no vaccine exists and others for which current vaccines could be more effective. Through the Vaccine Center, Wistar scientists are responding to these needs by working to create vaccines for the following diseases:

**HIV/AIDS:** Wistar researchers are developing a vaccine against HIV, responsible for the growing AIDS epidemic that affects some 40 million
people worldwide. The scientists are pursuing human clinical trials for a vaccine that has shown promise in animal studies. (See sidebar on page 7.)

**INFLUENZA:** Institute scientists are working to create a universal influenza vaccine that is effective against all strains of the flu, including avian flu, eliminating the need for annual vaccination programs and protecting against pandemics. (See sidebar on page 7.)

**RABIES:** Building on the success of existing Wistar rabies vaccines for humans and wildlife, Wistar scientists are pursuing an improved human rabies vaccine for developing countries, where the disease still takes the lives of thousands of children each year.

**CANCER AND AUTOIMMUNE DISEASES:** Wistar’s wide-ranging vaccine development program encompasses experimental treatment vaccines against colorectal cancer, melanoma, and human papillomavirus, which causes cervical cancer. Institute scientists’ autoimmune expertise also informs their development of novel new therapies for autoimmune diseases such as lupus and rheumatoid arthritis.

**HEPATITIS C, MALARIA, AND OTHERS:** Wistar researchers are collaborating with scientists at leading institutions worldwide to develop vaccines for

---

**Wistar Vaccine Successes**

Vaccines developed or co-developed by scientists at The Wistar Institute include:

**RUBELLA:** The Wistar vaccine for rubella, also known as German measles, has eradicated this disease in the United States, according to the Centers for Disease Control. Rubella infections during pregnancy were once greatly feared as a cause of devastating birth defects, including deafness and blindness.

**RABIES:** Two vaccines for rabies developed at the Institute prevent this disease in humans and wildlife. Wistar’s human rabies vaccine is a critical component of the treatment of choice for protecting people from rabies in the developed world. As long as the vaccine is given promptly as part of post-exposure treatment, it is nearly 100 percent effective in preventing fatal infection.

**ROTAVIRUS:** A new vaccine against rotavirus co-developed at Wistar became part of the recommended vaccine schedule for all U.S. babies in 2006. Rotavirus is the most common cause of severe dehydration disease in infants and young children. Rotavirus infections are responsible for tens of thousands of hospitalizations of U.S. children annually and an estimated 600,000 childhood deaths worldwide each year.

**CYTOMEGALOVIRUS:** Wistar researchers have developed a prototype vaccine to protect against this widespread infection, which can cause severe disabilities in infants. Wistar is now seeking a commercial partner to further develop this vaccine for the clinic.
hepatitis C, malaria, and other potentially deadly diseases.

Reflecting Wistar’s outstanding reputation for vaccine research, Vaccine Center scientists have attracted strong support from federal and state agencies and private grant makers. Center faculty members are supported by major funding, including a $10.1 million National Institutes of Health contract and a $4.2 million Pennsylvania Department of Health grant to develop a universal influenza vaccine and $13.3 million from the National Institute of Allergy and Infectious Diseases aimed at moving a promising new HIV vaccine into human clinical trials.

Wistar scientists lead the center, working in collaboration with top Philadelphia-area organizations including the University of Pennsylvania, Children’s Hospital of Philadelphia, and Temple University, as well as other major research institutes around the country and the world.

Vaccine Center faculty members maintain laboratories at the Institute, where they can collaborate easily and effectively. The Vaccine Center also provides shared laboratory facilities at the Institute to support the work of all center researchers. These laboratories include viral vector and human immunology core facilities.

The center benefits from the expertise of an external scientific advisory board made up of leading researchers and clinicians in immunology and vaccine development. Wistar professor emeritus Stanley A. Plotkin, M.D., serves as board chair. A winner of the Sabin Gold Medal, Plotkin created the

The following distinguished members of the Wistar Institute Immunology Program serve as founding members of the Vaccine Center. They bring a wide range of immunological expertise to the work of vaccine development.

Professor Hildegund C.J. Ertl, M.D., Vaccine Center director and leader of Wistar’s Immunology Program, is developing preventive and therapeutic vaccines for an array of infectious and noninfectious diseases, including HIV/AIDS and some forms of cancer. She leads center efforts, including the development of a universal influenza vaccine.

Professor Andrew J. Caton, Ph.D., researches the mechanisms by which the immune system regulates its responses to infecting agents and to the body’s own tissues and cells. He has extensive experience analyzing immune responses to the influenza virus. His expertise in immunology will support his work on the development of a universal influenza vaccine, as well as other projects.

Professor Jan Erikson, Ph.D., spearheads efforts to better understand immune cell activation and regulation. Her lab has been studying the signals that guide immune cells down distinct developmental paths that result in short-term immunity or long-lasting responses and memory.

Distinguished Researchers Lead Center
rubella vaccine used in the United States and worldwide. He also developed experimental vaccines against cytomegalovirus and polio and collaborated with former Wistar scientists Hilary Koprowski, M.D., also a Sabin Gold Medal winner, and Tadeusz Wiktor, D.V.M., on a human vaccine against rabies and with Paul A. Offit, M.D., and H. Fred Clark, D.V.M., Ph.D., on another against rotavirus.

More information on the Wistar Institute Vaccine Center, including inauguration highlights and podcast interviews with center faculty members, is available at www.wistar.org/vaccinecenter.

Professor Luis J. Montaner, D.V.M., D.Phil., works with HIV/AIDS patients in the Philadelphia area and in South Africa, researching novel treatments and strategies for understanding and strengthening the immune system’s response to HIV. His expertise will support the Vaccine Center’s development of vaccines for HIV/AIDS and other diseases.

Assistant professor E. John Wherry, III, Ph.D., focuses on the failure of immune system response in cases of chronic infection and in the elderly. His insights and experience in this area promise to contribute to the development of new and improved vaccines for conditions such as hepatitis C and influenza.

Additional scientists will join the center’s faculty as the initiative develops further.

Vaccine Center Garners State, Federal Funding Support

Since the Vaccine Center’s inauguration, its faculty members have earned two significant grants to support their research: $4.2 million from the Pennsylvania Department of Health to develop a universal influenza vaccine and $13.3 million from the National Institute of Allergy and Infectious Diseases to move a promising new HIV vaccine into human clinical trials.

The universal influenza project is being conducted in partnership with organizations including the University of Pennsylvania, Children’s Hospital of Philadelphia, and Temple University. Project funding, which began June 1 and will extend for four years, also enables Wistar to partner with Lincoln University and Cheyney University to provide research training to undergraduate minority students and their instructors.

“A universal influenza vaccine would allow us to guard against evolving strains, including the avian flu,” says project leader and center director Hildegund C.J. Ertl, M.D. “It would also provide better protection for vulnerable populations, such as the elderly.”

A universal vaccine would eliminate the need for annual vaccination campaigns and protect against flu pandemics, which occur when a new strain of flu emerges that is both deadly and highly contagious.

Ertl also is principal investigator for the newly funded HIV vaccine project. With $13.3 million in funding over five years, the planned clinical trials will be conducted under the auspices of the Integrated Preclinical/Clinical AIDS Vaccine Development Program of the National Institute of Allergy and Infectious Diseases. Wistar Institute scientists will collaborate with researchers at Emory University, the University of Pennsylvania, Harvard School of Public Health, MRC/UVRI Uganda Research Unit, and the National Institute for Communicable Diseases in South Africa on the project, which began September 1.

“We believe our vaccine, which is built on a novel chimpanzee virus backbone, has unique immunological advantages over other HIV vaccines currently in testing,” Ertl says. “In preclinical studies, the vaccine induced a vigorous immune response in monkeys, and we are hopeful it will do the same in humans.”
Meenhard Herlyn, D.V.M., D.Sc., is one of the world’s preeminent melanoma researchers, but he hadn’t put a human face on the disease until he met Noreen O’Neill. Prior to encountering the vivacious woman in 1998, Herlyn, who had been researching the disease for more than two decades, had never met a melanoma patient.

“I don’t know the reason—was it conscious or unconscious? —that I shied away from getting involved with melanoma patients, but after I met Noreen, I realized that there’s more to research than studying the basic mechanism of the disease,” says Herlyn, who leads Wistar’s Molecular and Cellular Oncogenesis Program. “I wanted to do something for the patient.”

Having been diagnosed with melanoma, O’Neill sought out Herlyn because she was determined to make an impact on the disease that was affecting her. She wanted to raise money for melanoma research and couldn’t find a Philadelphia-area organization that shared her goals. So, with Herlyn’s help, O’Neill set out to create her own foundation. Her vision would become the Noreen O’Neill Foundation for Melanoma Research.

O’Neill knew that 60,000 people are diagnosed with melanoma each year and that 8,000 of them will eventually die of the disease. Among patients whose melanoma metastasizes, about 85 percent die within five years. Like a scientist, she held a long-term view, and she knew that research holds the answer to creating more effective treatments.

“Noreen was saying that she wanted to see the long road even if it didn’t help her,” Herlyn recalls.

The research she supported would, indeed, come too late to help O’Neill, who died of melanoma in 2000 at age 48.

Her vision lives on through her foundation, led by her sister Kate O’Neill. In addition to raising awareness about the disease, the organization donates the money it raises to support the melanoma research performed at Wistar by Herlyn and his colleagues. (See sidebar at right.) In doing so, Herlyn believes, the foundation reflects O’Neill’s visionary thinking and belief in the critical importance of research.

That support is being rewarded with progress in the lab. Herlyn has developed unique artificial skin models that are aiding him in studying skin cell division and proliferation in melanoma, and he is also working with...
federally approved stem-cell lines to understand what role melanoma stem cells may play in the disease.

“In the near future, meaning in the next five years, we can start to think about saving the lives of most patients with advanced melanoma,” Herlyn says.

On a personal level, the charismatic O’Neill, who Herlyn remembers as “a people person” who could “get people engaged,” changed the way the researcher approaches his work. Herlyn acknowledges that keeping distance from patients can serve a purpose in allowing scientists to dissect the complexity of a disease into relatively simple models. However, he says “sometimes scientists go so far into a reductionist mode that they lose the association with human disease.” Meeting O’Neill helped Herlyn focus on the human aspects of the disease—and treatment—instead of merely examining a biological question.

“Her greatest legacy, for me, is to motivate me to be involved in patients’ pressing issues, to become involved in therapy,” Herlyn says. “Her legacy is to build bridges between basic researchers and patients. You have to do that at a personal level and bring people together.”

“The Noreen O’Neill Foundation for Melanoma Research was posthumously named in Noreen O’Neill’s honor. For more information on the foundation, visit www.foundationformelanomaresearch.org.

’Running For Cover’ Benefits Wistar Melanoma Research

Running for Cover, the annual race organized by the Noreen O’Neill Foundation for Melanoma Research, raises funds to support melanoma research at Wistar. The event, which expanded beyond Philadelphia this year to include a site in Atlanta, netted total proceeds of $60,000.

PHILADELPHIA: TWO YEARS RUNNING—Wistar community members who participated in the June 24 Running for Cover event at the Wachovia Center in Philadelphia pose for a team photo. Nearly 600 people, including 95 Wistar employees and their friends and family members, turned out for the second annual five-kilometer run and one-mile walk. More than twice as many runners, walkers, and volunteers participated this year as last year.

ATLANTA: OFF WITH A BANG—Volunteers at Atlanta’s first annual Running for Cover event take time out from their duties June 23 at South Forsyth High School. The event drew 150 participants and up to 40 volunteers and raised more than $15,000. At center in white T-shirts are organizer Angie Bowbliss and her husband, Pete, a melanoma survivor in whose honor the event was held.
according to the Centers for Disease Control and Prevention.

Four laboratories at The Wistar Institute are aiming to change this, and they can boast remarkable progress in just the past year. One set of researchers is developing an early detection blood test for lung cancer, while another is exploring how the immune system might be brought into the fight against the disease.

Two of the laboratories are working with support from the Leroy E. Kean Family Foundation. Kean, whose wife Lois died of lung cancer in 2002, has as his primary goal to support research that may lead to a cure for lung cancer. He also has a secondary goal of raising the profile of lung cancer research at Wistar to attract more scientists to study this deadly disease.

The other two Wistar labs studying lung cancer have received funding from the Commonwealth of Pennsylvania through the Tobacco Master Settlement Agreement, which directs tobacco-company payments to the states to compensate for smoking-related medical costs. Pennsylvania targets a percentage of the funds it receives through the agreement for biomedical research.

“There are roughly 40 million smokers and ex-smokers in the United States,” says Louise C. Showe, Ph.D., a professor in Wistar’s Molecular and Cellular Oncogenesis Program and one of the Wistar scientists researching lung cancer. “Approximately 15 percent of those people will get lung cancer. That’s 6 million people.” Showe has been supported by tobacco-settlement funds.

The main reason that so many people die from lung cancer is that the disease is often detected too late for effective treatment. Perhaps a quarter of people with advanced lung cancer have no clinical symptoms. Many of the rest have non-specific symptoms
A BLOOD TEST TO DETECT EARLY-STAGE LUNG CANCER, CURRENTLY IN DEVELOPMENT AT WISTAR, COULD SAVE MILLIONS OF LIVES.

such as shortness of breath or a persistent cough. A simple and accurate test for early detection of the disease would save millions of lives.

This is the area in which Showe has focused the efforts of her laboratory. She and her colleagues compared the activity of 25,000 genes in blood samples from lung cancer patients to the activity of the same genes in samples from people with other lung diseases. They succeeded in identifying a group of only 15 genes that she believes could be the basis for a new diagnostic test.

“In the laboratory, we can now diagnose early stage lung cancer using blood samples with something like 92 percent accuracy,” Showe reports. “This is exciting, because the disease is often curable when treated aggressively in the earliest stages of development.”

David Speicher, Ph.D., a professor in and co-leader of the Molecular and Cellular Oncogenesis Program, heads the lung-cancer research project on which Showe works. He is using a complementary approach to developing an early detection lung-cancer test that also focuses on the blood. He too has seen promising results.

Speicher uses advanced analytic tools to search for signature proteins shed by different cancers into the blood. To date, he has identified dozens of lung tumor proteins in the blood, and he expects that some of these proteins will form the basis of improved tests for cancer detection. These proteins are referred to as biomarkers, and Speicher is now conducting additional studies to determine which of the proteins have the most value as diagnostic markers for the early detection of lung cancer.

Support from donor Kean is allowing assistant professor Joseph Kissil, Ph.D., in the Molecular and Cellular Oncogenesis Program, and E. John Wherry, Ph.D., an assistant professor in the Immunology Program, to collaborate to investigate how the immune system might be harnessed to recognize and combat lung cancer. The pair of scientists is encouraged by the fact that this strategy is proving successful against other cancers, including melanoma, the deadliest skin cancer.

The first step in their efforts has been to develop a strain of mice that will enable closer study of the molecular mechanisms involved in the progression of the disease. For several years, Kissil has been investigating the role of a gene called K-ras in the most common form of lung cancer. The newly developed mice incorporate a mutant version of this gene that, when activated, results in tumors that closely mimic human lung cancer.

Already, experiments in the mice are producing significant results. In September, Kissil published a study in the journal Cancer Research showing that the activity of another gene called Rac1 is required for K-ras-induced lung cancers, illuminating an important step on the biochemical pathway in lung-cancer development.

Wherry’s research focuses on understanding the immune response to chronic infections. A study from his laboratory, published in the journal Immunity in October, showed that critical immune cells called T cells become exhausted by the fight against disease in specific ways, undergoing profound genetic changes that make them progressively less effective over time.

“The problem of T-cell exhaustion is seen not only in chronic infections, but also in cancer,” Wherry says. “As we come to understand the process better, we expect to find ways to turn the immune system back on when this happens. Interventions of this kind could be used to fight chronic infections but might also be applied to treating lung cancer and other cancers.”

On the strength of their initial work, Kissil and Wherry plan to apply to the federal government for sustaining funds to carry the research forward.

“There are a lot of opportunities that will evolve out of this project,” Wherry says.
The Wistar Institute honored real-estate developer Hal Davis at a black-tie gala October 27 at the Four Seasons Hotel Philadelphia. Davis has been a member of the Wistar board of trustees for 20 years and currently serves as co-vice chair of the board. He and his wife, Eleanor, have supported breast cancer research at the Institute for many years, and the event in his honor raised more than $100,000 for research at Wistar.

At the gala, Davis was presented with the Wistar Award, which the Institute presents periodically to an individual who demonstrates compassion, integrity, generosity, commitment, and vision in service to Wistar. To date, only three other people have received the award: Robert A. Fox, Doris Taxin, and Kevin M. Tucker.

“Hal has always been a person I could go to for advice and counsel,” says Russel E. Kaufman, M.D., president and CEO of The Wistar Institute. “And at the end of the day, he believes in what we do at Wistar and has been extremely supportive of our efforts.”

Adele K. Schaeffer, chair of the Wistar gala committee, opened the program by thanking the honorary members of the committee: Governor Edward G. Rendell, Sen. Arlen Specter, Sen. Robert P. Casey Jr., Philadelphia mayoral candidate Michael Nutter (now mayor-elect), former NFL coach Dick Vermeil, ABC News correspondent Sam Donaldson, and Gen. H. Norman Schwarzkopf. On behalf of Wistar, she also expressed her gratitude to the major sponsors of the event: RAF Industries, Realen Properties, PNC Financial Services Group, Betty and Brian H. Dovey, Maureen and Brian Harrison, and the Karen and Herbert Lotman Foundation. Additionally, she acknowledged the time and efforts of her fellow gala committee members: Ira Brind, Robert A. Fox, Russel E. Kaufman, M.D., Faye Kozich, Herbert Lotman, Nicholas Martell, Helen P. Pudlin, Esq., Edward Sickles, and Kevin M. Tucker.

Wistar board chair Brian H. Dovey also offered remarks at the gala, outlining some of the significant progress being made at the Institute: the launch of the Wistar Institute Vaccine Center in May to create new vaccines against HIV, influenza, and other major dis-
eases; the anticipated opening of the Center for Systems and Computational Biology, which will extend Wistar’s 35-year history of accomplishment in cancer research; and the recruitment in just the past few years of 12 talented scientists to join the Institute’s faculty.

Kaufman spoke warmly about Davis and praised him for his intelligence and, particularly, his steadfast loyalty, not only to friends and family but also to any cause to which he dedicates himself, including The Wistar Institute. Wistar has long been Davis’s leading philanthropic commitment.

The Davises’ interest in cancer research—one of Wistar’s two primary areas of focus, along with vaccines—stems from personal experience. Hal lost a brother to cancer, and Eleanor survived breast cancer. She recalls: “When I was diagnosed with breast cancer in 1979 at a young age and Hal became involved at Wistar, I thought it was a perfect opportunity for us to invest in basic biomedical research—to help find a cause, and eventually a cure.”

After the couple’s son Christopher died in an automobile accident in 1995, they established the Christopher M. Davis Memorial Fund at Wistar in his memory. The fund created a fellowship that allows Wistar to recognize a postdoctoral fellow who excels in breast-cancer research. Most recently, the Davises also endowed an associate professorship at the Institute that will help Wistar to remain competitive in recruiting outstanding young scientists for cancer research.

The Davises have climbed to great heights—literally—in their efforts to support cancer research. In 1992, the couple set off with family members to climb Mount Kilimanjaro in Kenya, an ascent of 19,340 feet. Wistar Institute researchers supplied them with a Wistar flag, which they planted when they reached the summit. In 1995, Eleanor also participated in Expedition Inspiration, in which breast-cancer survivors climbed Aconcagua in Argentina—the highest point in the Western Hemisphere at 22,831 feet—to raise awareness of breast cancer. Her climb also raised $50,000 for cancer research at Wistar.

Davis co-founded Realen Homes in 1967. The company was named National Home Builder of the Year in 1998. Davis sold the company in 2000 but continues to serve as a founding partner with Realen Properties, a commercial real estate developer with properties in Pennsylvania, New Jersey, California, and Florida.  

WISTAR SUPPORTERS CELEBRATE
Clockwise from top: Gala chair Adele K. Schaeffer; Dennis Maloomian, a business partner of honoree Hal Davis, with Davis; Frank and Suzanne Binswanger; Adele and Al Goldman; Judy Lieb, left, with Eleanor Davis, wife of honoree Hal Davis, and Maureen Harrison; Betty Dovey, wife of Wistar chair of the board Brian H. Dovey, left, with Dick Gwinn, Brian Dovey, and Brita Gwinn; Jerry Johnson, left, chair of Radnor Trust Co., with Tony Nichols and Raye Johnson

Photos by Tommy Leonardi
Regulation of Vital Tumor Suppressor Gene p53

So vital is the p53 tumor suppressor gene in controlling cancer that its dysfunction is linked to more than half of human cancers. At the same time, the gene’s capacity for shutting down cell growth, even causing cells to commit suicide if necessary, is so absolute that it must be tightly regulated to maintain the optimal balance between protecting against cancer and permitting normal growth.

A study by scientists at The Wistar Institute revealed new levels of subtlety in the body’s management of this all-important tumor suppressor gene and the protein it produces. The experiments showed that, while the addition of a specific molecule at a particular site on the p53 protein prevents it from acting, the addition of a second copy of the same molecule at the same site reverses the effect, sending p53 into action. Further, removal of the second copy returns the protein to its repressed state.

A report on the study appeared in September in Nature.

“The p53 tumor suppressor is extremely potent in halting cell growth,” says Shelley L. Berger, Ph.D., the Hilary Koprowski Professor at Wistar and senior author on the study. “So, as critical as p53 is in protecting against the unchecked growth of cancer, you don’t want it constantly on. If it were always on, your cells wouldn’t be able to grow normally. Yet it needs to be constantly on call for activation against cancer and other aberrant cellular developments. Our study shows one way that cells, working at one particular location on the p53 protein, maintain a nuanced but firm control over the gene’s activity.”

Responsible for tumor suppression throughout the body, the p53 gene is mutated or otherwise disabled in a majority of human cancers. When working properly, the protein produced by the p53 gene acts by binding to DNA to activate other genes that direct cells with damaged DNA to cease dividing until the damage can be repaired. Cells with such damage...
WISTAR WELCOMES NEW FACULTY MEMBERS

Two new scientists joined Wistar’s faculty in September, bringing the Institute’s faculty complement to 31.

Hui Hu, Ph.D., is an assistant professor in Wistar’s Immunology Program. Hu was formerly a postdoctoral associate at the CBR Institute for Biomedical Research at Harvard Medical School, where he investigated immune cell genetics, development, and function in the laboratory of Anjana Rao, Ph.D. He also served as an instructor in the department of pediatrics at Harvard’s Children’s Hospital Boston.

Hu attended the Shanghai Medical University and received his doctorate from Stockholm University. Prior to joining Harvard in 2002, he served as director of immunobiology for Synta Pharmaceuticals Corp. He also served as a postdoctoral associate at the Center for Cancer Research at MIT and as a postdoctoral fellow at the Trudeau Institute.

After initiating research on the novel transcription factor Foxp1, Hu discovered that it plays an essential role in B cell development. He plans to elucidate the molecular mechanisms of the factor’s regulation and participation in transcriptional control of this process, as well as its role in mature B and T cell functions.

Kenichi Noma, Ph.D., is an assistant professor in Wistar’s Gene Expression and Regulation Program. Noma was formerly a staff scientist at the National Cancer Institute’s Laboratory of Biochemistry and Molecular Biology, where he investigated the mechanisms controlling the assembly of chromatin, the material that makes up chromosomes, in fission yeast in the lab of Shiv Grewal, Ph.D.

Noma earned his doctorate from the University of Tokyo. He served as a postdoctoral fellow at Cold Spring Harbor Laboratory before moving to the National Cancer Institute.

Noma’s long-term research goals include exploring the role of higher-order chromatin organization in various cellular processes, eventually extending his research in fission yeast to mammalian systems.

Component of Niacin May Point the Way to Anti-Aging Drugs

In recent years, scientists have discovered that a family of enzymes called sirtuins can dramatically extend life in organisms as diverse as yeast, worms, and flies. They may also be able to control age-associated metabolic disorders, including obesity and type II diabetes.

Naturally occurring substances have been shown to activate sirtuins, including a constituent of red wine called resveratrol—although an individual would need to drink about two cases of wine a day to derive a clinically effective dose of resveratrol. Still, the findings have energized a number of scientific groups and biotechnology companies, all of which are now eagerly searching for drug candidates able to boost sirtuin activity. The public-health benefits of such an “anti-aging” drug would be substantial—as would the economic returns.

A study from Wistar scientists points to another strategy for activating sirtuins to unleash their anti-aging powers. A report on the research appeared in February in Molecular Cell.

Using the techniques of structural biology, the Wistar team demonstrated that a component of the common vitamin B3, also known as niacin, binds to a specific site on the sirtuin molecule to inhibit its activity. This observation suggests that drugs designed to prevent the vitamin B3 component, nicotinamide, from binding at this site could have the effect of activating sirtuins. Any such drug would, in essence, inhibit the inhibitory effect of nicotinamide. As in mathematics, the two negatives would create a positive result—activation of sirtuins.

“Our findings suggest a new avenue for designing sirtuin-activating drugs,” says senior author Ronen Marmorstein, Ph.D., a professor in Wistar’s Gene Expression and Regulation Program. “The jury is still out as to whether a drug of this kind might result in longer...
life in humans, but I’m equally excited by the possibility that such interventions might help counteract age-related health problems like obesity and type II diabetes.”

The lead author on the *Molecular Cell* study was Brandi D. Sanders at Wistar. Kehao Zhao, Ph.D., formerly at Wistar and now at the Novartis Institutes for Biomedical Research Inc. in Cambridge, Massachusetts, was also a coauthor, as was James T. Slama, Ph.D., with the College of Pharmacy at the University of Toledo, Ohio. Funding to support the research was provided by the National Institutes of Health and the Commonwealth Universal Research Enhancement Program of the Pennsylvania Department of Health.

**Newly Identified Mechanism for Silencing Genes**

Genes provide the instructions used by individual cells to produce the many different proteins that make up the body. Scientists are only beginning to appreciate, however, the extraordinary degree of control exercised over every step of the production process.

Only about 10 percent of human genes, for example, are actively producing proteins in a given cell at a given time. The remaining 90 percent are silenced by various mechanisms that act to interfere with gene transcription into messenger RNA or translation of messenger RNA into the final protein.

In a study published in May in the journal *Nature*, a team of scientists at Wistar and the University of California, San Diego, reported identification of an important new gene-silencing mechanism, one that blocks the cellular machinery responsible for translating the messenger RNA associated with specific genes into proteins.

The findings suggest that small bits of RNA known as microRNAs, known to help regulate genes but not used for protein production, may be operating in a completely novel way to prevent genes from producing proteins. MicroRNAs have been implicated in a number of cancers, and the newly outlined gene-silencing mechanism offers promising potential targets for anticancer interventions.

“Some microRNAs closely match their sequences against particular messenger RNA sequences to target them for destruction,” explains Ramin Shiekhattar, Ph.D., a professor in the Gene Expression and Regulation Program and the Molecular and Cellular Oncogenesis Program at Wistar and senior author on the study. “That’s one way we know that microRNAs can silence genes.”

“That mechanism requires extraordinary specificity, however, and we suspected that microRNAs were also acting in some other way to inhibit gene translation into protein.”

By tracking the associations between molecules involved in generating microRNAs and other molecules in the cell, the researchers uncovered an entirely new mechanism that blocks the cellular machinery that produces protein from messenger RNA.

The lead author on the study was Thimmaiah P. Chendrimada, Ph.D., at Wistar. The additional Wistar co-authors were David Baillat, Ph.D., and Richard I. Gregory, Ph.D. Co-authors Xinjun Ji, Ph.D., and Steve A. Liebhaber, M.D., who conducted the experiments involving human cells, are affiliated with the University of Pennsylvania. Kenneth J. Finn, Ph.D., is with the University of California, San Diego, as is study collaborator Amy E. Pasquinelli, Ph.D.

The research was supported by the National Institutes of Health, the Searle Foundation, the V Foundation for Cancer Research, the Mathers Foundation, the Cooley’s Anemia Foundation, and the Commonwealth Universal Research Enhancement Program of the Pennsylvania Department of Health.

**‘Insulator’ Helps Silence Genes in Dormant Herpes**

By adulthood, most people have suffered at least one bout of painful cold sores brought on by the herpes simplex virus 1, also known as HSV-1. After the initial infection, the virus usually remains in the body, hiding out in nearby nerve cells where the victim’s immune defenses cannot reach it, causing no symptoms at all between periodic outbreaks.

In order to escape detection by the body’s immune system, the latent virus works to silence genes that would cause it to replicate. In this dormant state, only a tiny fragment of the virus genome—a single gene called the Latency-Associated Transcript gene (LAT)—remains active. Scientists have
long puzzled over the mechanism used to keep this small region of the genome from silencing, allowing infected cells to survive,” says study senior author Jumin Zhou, Ph.D., a Wistar associate professor.

The findings, which appeared in the May issue of the Journal of Virology, mark the first time such an insulator has been identified in a virus and may lead to new strategies to manipulate the virus to control infection. Insulators, also known as boundary elements, are DNA segments that work to prevent a gene from being influenced by the activation or repression of its neighbors. About a dozen different insulator elements have been identified in organisms as varied as yeast, fruit flies, and humans.

“The study also showed that HSV-1 chromatin is organized in a manner very similar to the host chromatin, a similarity that may work to the virus’s advantage, says Shelley L. Berger, Ph.D., the Hilary Koprowski Professor at The Wistar Institute and co-author on the study.

In addition to senior author Zhou and co-author Berger, the additional coauthors on the study are Qi Chen, M.D., Lan Lin, Sheryl Smith, Ph.D., and Jing Huang, Ph.D., all at Wistar. The research was supported by grants from the National Institutes of Health and the Commonwealth Universal Research Enhancement Program of the Pennsylvania Department of Health.

Information on Wistar technologies available for licensing can be found at www.wistar.org under “Technology Transfer.”

**New Grant Awards**

The Wistar Institute and its scientists continue to compete successfully for grants to support research and programs. Below is a list of recent awards.

**Private Grants**

<table>
<thead>
<tr>
<th>Grant Category</th>
<th>Individual/Institution</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCELERATE BRAIN CANCER CURE</td>
<td>Qihong Huang, M.D., Ph.D.</td>
<td>$100,000</td>
</tr>
<tr>
<td>ALPHA OFFICE SUPPLIES</td>
<td>The Wistar Institute</td>
<td>$2,500</td>
</tr>
<tr>
<td>AMERICAN ASSOCIATION FOR CANCER RESEARCH</td>
<td>Shelley L. Berger, Ph.D.</td>
<td>$100,000</td>
</tr>
<tr>
<td>AMERICAN HEART ASSOCIATION</td>
<td>Vilma Decman, Ph.D.</td>
<td>$36,000</td>
</tr>
<tr>
<td>AMERICAN SKIN ASSOCIATION</td>
<td>Brijal Desai, laboratory of Meenhard Herlyn, D.V.M.</td>
<td>$7,000</td>
</tr>
<tr>
<td>MORRIS S. &amp; FLORENCE H. BENDER FOUNDATION, INC.</td>
<td>David W. Speicher, Ph.D.</td>
<td>$1,250</td>
</tr>
<tr>
<td>CITIZEN’S BANK</td>
<td>William H. Wunner, Ph.D.</td>
<td>$100,000</td>
</tr>
<tr>
<td>ELLISON MEDICAL FOUNDATION</td>
<td>Emmanuel Skordalakes, Ph.D.</td>
<td>$200,000</td>
</tr>
<tr>
<td>FIDELITY CHARITABLE GIFT FUND</td>
<td>The Wistar Institute</td>
<td>$2,000</td>
</tr>
<tr>
<td>MARIE AND JOSEPH FIELD FUND</td>
<td>The Wistar Institute</td>
<td>$10,000</td>
</tr>
<tr>
<td>GLAXOSMITHKLINE</td>
<td>William H. Wunner, Ph.D.</td>
<td>$9,640</td>
</tr>
</tbody>
</table>

**Publications**


**Contact**

For more information, please contact:

- Vishal Rana, Development Communications, Wistar Institute
  - Phone: (215) 247-3121
  - Email: vishal@wistar.org

**Wistar Institute**

1001 Race Street
Philadelphia, PA 19107

- Phone: (215) 247-3100
- Website: www.wistar.org

**Focus**

Fall 2007

17
Cell Line Shows Promise as Cancer Therapy

The Italian biopharmaceutical company Abiogen Pharma SpA recently obtained from Wistar a worldwide license to TALL-104, a cell line that shows promise in combating a variety of cancers.

Developed by former Wistar researcher Daniela Santoli, Ph.D., from the cells of a child with a rare form of T-cell leukemia, TALL-104 has demonstrated potential for treating cancers in both humans and animals. Santoli used the cell line successfully to treat dogs with osteosarcoma, a type of bone cancer, and malignant histiocytosis, a blood cancer.

In the late 1990s, TALL-104 was evaluated in Phase I clinical trials in patients with breast cancer at the University of Pennsylvania, and in patients with a variety of pediatric tumors at the Children's Hospital of Philadelphia. After Wistar granted Abiogen a limited license to TALL-104 in 1999, the company conducted a Phase I cancer trial in Italy. Together these tests demonstrated the safety of the therapy, which is the aim of Phase I trials.

Based on this early success, Wistar and Abiogen worked together to expand the company’s license and grant Abiogen exclusive worldwide rights.

“Abiogen has been encouraged by our early studies demonstrating the safety of TALL-104,” says Sergio Rosini, Ph.D., director of research and development at Abiogen Pharma SpA. “We look forward to the opportunity to develop a novel and effective cancer treatment using these cells.”

The cell line is now entering additional testing. Phase I/II clinical trials began this year at M.D. Anderson Cancer Center, Houston, with leukemia patients who relapsed after treatment with the cutting-edge cancer therapy Gleevec. This level of testing will begin to assess the cell line’s efficacy, as well as its safety. A preclinical research program also is under way with the Cleveland Clinic to determine whether TALL-104 can pass the blood-brain barrier and treat brain cancer.

“We believe TALL-104 may be useful to treat a variety of cancers,” notes Meryle J. Melnicoff, Wistar’s director of business development. “The early tests in dogs show that these cells have the potential to be a completely different approach to treating cancer.”

Institute Recognized with Historical Marker

Wistar unveiled a historical marker from the Pennsylvania Historical and Museum Commission at a dedication ceremony November 14. The blue marker outside the Institute indicates Wistar as a historic site. The ceremony

2007 Journalism Award Winner Named
Winner Discusses ‘Bioterror Threat’ on Wistar Panel

Peter Aldhous, San Francisco bureau chief for New Scientist magazine, won the 2007 Wistar Institute Science Journalism Award for a set of articles that investigated important areas of current biomedicine, including bioterror and stem cell research. For his work, Aldhous received a certificate of award and cash prize of $5,000.

The judges praised Aldhous for his meticulous reporting, particularly on two major issues in biomedical research. His original reporting on “dual-use” biomedical research made use of public databases to reveal little-known projects that pose potential risks to the public. He also conducted an insightful exploration of the limitations of stem cell research and pointed out the hype put forth by many researchers in the field. In addition, he reported on a vital but poorly understood aspect of early HIV infection.

Aldhous received his award and was featured as part of a panel discussion on “The Bioterror Threat: Preventing the Misuse of Biomedical Research” November 1 at Wistar. Also featured were:

• Joe Palca: senior science correspondent, National Public Radio; co-chair, Wistar Institute Science Journalism Award Judging Committee
• Stanley Plotkin, M.D.: professor emeritus, The Wistar Institute; chair, Wistar Institute Vaccine Center Scientific Advisory Board; developer of vaccines against rubella and rotavirus; expert on anthrax
• Harvey Rubin, M.D., Ph.D.: director, Institute for Strategic Threat Analysis and Response, University of Pennsylvania; member, National Science Advisory Board for Biosecurity

The Wistar Institute Science Journalism Award honors annually the most insightful and enterprising reporting on the basic biomedical sciences in print or broadcast journalism. Established in 2004, the prize has established itself as a major award in professional journalism. Submissions for the contest were very competitive this year, as in years past, with strong entries received from top journalists reporting for print and broadcast outlets across the country.

Entries are judged by an independent panel of science journalists co-chaired by Pulitzer Prize winner Deborah Blum, a professor at University of Wisconsin-Madison, and Joe Palca, senior science correspondent for NPR.
also commemorated the 180th birthday of Wistar founder Isaac Jones Wistar.

“This historical marker honors and celebrates Wistar’s rich history in the region,” says Wistar president and CEO Russel E. Kaufman, M.D. “The Institute has been an integral part of Philadelphia’s medical and scientific community for more than a century.”

Kaufman made remarks at the ceremony, as did Janet Klein, a PHMC member and Wistar supporter. Descendants of the Wistar family, as well as friends of the Institute, attended the event, which was followed by a champagne reception.

The text of the marker recognizes Wistar as the nation’s first independent biomedical research institution.

**Skordalakes Wins New Scholar in Aging Award**

Emmanuel Skordalakes, Ph.D., assistant professor in the Gene Expression and Regulation Program, has won a New Scholar Award in Aging from the Ellison Medical Foundation. The four-year award will provide $200,000 to support his research into the relationships among cell mortality and immortality, cancer, and aging in pursuit of anti-aging and anti-cancer therapies.

**Walter Gerhard Retires**

Walter Gerhard, M.D., a professor in Wistar’s Immunology Program, acknowledges colleagues in June at a reception marking his retirement after 33 years at the Institute. Using his extensive knowledge of influenza, Gerhard developed a prototype vaccine against the virus—a project that will continue under the leadership of Jan Erikson, Ph.D., at the Wistar Institute Vaccine Center. A symposium featuring Nobel Prize winner Peter C. Doherty, Ph.D., a former Wistar faculty member, along with a number of Gerhard’s former students, will be held in Gerhard’s honor Nov. 30 at the Institute.

**Authors of Vaccine Books Speak at Wistar**

Vaccines have played a tremendous role in the nation’s fight against infectious diseases, and they continue to occupy a prominent place in the public’s consciousness. The two authors featured in Wistar’s 2007 Authors Series wrote about aspects of vaccines’ development and current use.

Freelance journalist Arthur Allen, author of Vaccines have played a tremendous role in the nation’s fight against infectious diseases, and they continue to occupy a prominent place in the public’s consciousness. The two authors featured in Wistar’s 2007 Authors Series wrote about aspects of vaccines’ development and current use.

Freelance journalist Arthur Allen, author of *Vaccine: The Controversial Story of Medicine’s Greatest Lifesaver*, spoke at the Institute in May. His book and talk focused on the tumultuous history of vaccines in the United States over the past 200 years, touching on vaccine safety, effectiveness, and public acceptance. Discussion topics included contemporary vaccine controversies and the efforts made by the research community to ensure public confidence in vaccines and their ability to protect human health.

Internationally known vaccine expert Paul A. Offit, M.D., discussed his new book *Vaccinated: One Man’s Quest to Defeat the World’s Deadliest Diseases* at the Institute in September. He focused on the man responsible for nine of the “big fourteen” vaccines recommended for all children: Maurice Hilleman, Ph.D., D.Sc. In *Vaccinated*, Offit recounts Hilleman’s many contributions to worldwide public health and explores recent debates about vaccines and what science has to say about vaccine safety.
Future Biomedical Technicians Graduate from Wistar Program

Two years of hard work was rewarded when students in the Biomedical Technician Training Program were honored at a graduation ceremony in August at The Wistar Institute. A project of Wistar, Community College of Philadelphia, and the Fels Institute for Cancer Research and Molecular Biology at Temple University, the program combines classroom learning with hands-on lab experience over a two-year course of study.

“You’re learning how to learn,” keynote speaker Chad Womack, Ph.D., told the graduates. “Opening doors is about asking the right questions. With the training received in this program, you’ll be prepared to ask the next question.” Womack, who is vice president for educational and training initiatives at the Science Center in Philadelphia, received some of his early training in the laboratory of former Wistar researcher Carlo M. Croce, M.D., now director of the human cancer genetics program at Ohio State University Comprehensive Cancer Center.

The BTT Program is one of several summer training initiatives for college and high school students offered by Wistar. The Institute also provides internships for college students nationwide through the Summer Undergraduate Research Fellows Program; research training for students from Cheyney University as part of a state grant to support the Wistar Institute Vaccine Center; and internships for Philadelphia high school students through the Wistar Institute High School Fellowship Program.

Assistant Professor Receives Grant to Support Grant to Support Brain Tumor Research

Qihong Huang, M.D., Ph.D., an assistant professor in Wistar’s Molecular and Cellular Oncogenesis Program, has been selected to receive a $140,000 grant from Accelerate Brain Cancer Cure Inc. The funding supports his work in screening large numbers of microRNAs, molecules that appear to play a role in cancer genetics, for their possible activity in the treatment of brain tumors. Huang’s research, which advances the goals of the Albert R. Taxin Brain Tumor Research Center at Wistar, uses the tools of systems biology, one of the Institute’s areas of strategic focus.
Wine Event Provides Taste of Research

Red Wine and Eternal Youth,” an event held in April at Moore Brothers Wine Co. in New York City, featured an opportunity to hear from Ronen Marmorstein, Ph.D., a professor in Wistar’s Gene Expression and Regulation program, and to sample a selection of wines. Insights from Marmorstein’s work may lead to new drugs to activate or inhibit molecules called sirtuins, which play a critical role in life processes including metabolism, physiology, and aging. Wistar president and CEO Russel E. Kaufman, M.D., hosted guests including foundation representatives and members of the Wistar family who gathered to hear what Marmorstein and his colleagues have discovered about sirtuin-regulating compounds, such as one found in red wine, that are linked to improved health and longevity.

Training News

> Jing Huang, Ph.D., has won the Ching Jer Chern Memorial Award, which honors the postdoctoral fellow who writes the best scientific paper of the year. Huang, whose paper on cancer genetics was published in the journal Nature, works in the laboratory of Shelley L. Berger, Ph.D. The award was established in memory of Dr. Ching Jer Chern, a Wistar scientist.

>Troy Messick, Ph.D., has received the Christopher M. Davis Memorial Fellowship, which recognizes a postdoctoral fellow who excels in breast-cancer research. Messick works in the laboratory of Ronen Marmorstein, Ph.D. The fellowship was established in memory of Christopher Davis, son of board of trustees co-vice chair Harold M. Davis and his wife, Eleanor Davis.

> Brandi Sanders has been named winner of the Monica H.M. Shander Memorial Fellowship, given to predoctoral fellows conducting outstanding research. Sanders, who investigates structure-based design of drugs to modulate Sir2, a molecule involved in metabolism and longevity, works in the laboratory of Ronen Marmorstein, Ph.D. The fellowship honors trainees who demonstrate excellence in scholastics and aptitude and diligence in the laboratory.

Professor Receives Funding, Joins ‘Institute Without Walls’

Professor Frank J. Rauscher III, Ph.D., leader of Wistar’s Gene Expression and Regulation Program and deputy director of the Wistar Institute Cancer Center, has received a grant for $230,000 from the Samuel Waxman Cancer Research Foundation to support his research on the regulation of chromatin, the material of chromosomes. The Waxman foundation is distinctive in that it requires researchers to collaborate with their peers on funded research projects. The foundation refers to this collaborative effort as its “Institute Without Walls.” Rauscher is one of just 60 researchers worldwide to have received funding under the initiative.
Hilary Koprowski, M.D., one of the world’s outstanding biomedical researchers over the past half-century, was named the 2007 winner of the Sabin Gold Medal. Koprowski was the director of The Wistar Institute from 1957 to 1991 and is today a professor emeritus and board member at Wistar.

Koprowski is the 15th recipient of the medal, which is awarded annually to recognize the extraordinary accomplishments of those who make vaccine discoveries or employ vaccines to combat vaccine-preventable diseases. He was presented with the award by Stanley Prusiner, M.D., winner of the 1997 Nobel Prize in Physiology or Medicine, in May in Baltimore in conjunction with the National Foundation for Infectious Diseases Annual Conference on Vaccine Research.

“Any serious discussion of the giants of 20th century biomedical research must include Hilary Koprowski as one of the most prominent,” said H.R. Shepherd, D.Sc., the Sabin Vaccine Institute’s founding chairman.

Sabin president Peter Hotez, M.D., Ph.D., added: “The scope of his achievements is simply remarkable, ranging from polio to rabies and to monoclonal antibodies that are a key to effective cancer immunotherapy.”

In winning the medal, Koprowski joins former colleague and fellow Wistar professor emeritus Stanley A. Plotkin, M.D., who was honored with the award in 2002. Plotkin, best known as the developer of the rubella vaccine responsible for eradicating that disease in the United States, also co-developed a vaccine against rotavirus approved in 2006.

Koprowski’s groundbreaking work in polio and rabies greatly advanced vaccine research. In the late 1950s, his efforts resulted in production of the first oral polio vaccine used in clinical trials to immunize people on four continents. In the 1970s, his passionate interest in rabies led him to co-develop a new tissue-culture-based vaccine that is more effective, less painful, and safer than the traditional Pasteur technique.

He was a pioneer in the development of monoclonal antibodies used to detect cancer antigens and in cancer immunotherapy. And he has successfully used plants to produce experimental vaccines and antibodies. Koprowski and his associates developed the first functional monoclonal antibody against a colorectal cancer antigen and rabies. The monoclonal antibody recognizing the antigen of colorectal cancer is used throughout the world for diagnosis of pancreatic cancer by detection of the antigen in blood.

A native of Warsaw, Poland, Koprowski initially received a degree in piano from the Warsaw Conservatory. He then received his M.D. from the University of Warsaw in 1939 and in 1940 graduated from the National Academy of Santa Cecilia in Rome, a world-renowned institute for the study of music.

He moved to Brazil and then soon relocated to the United States, where he eventually became director of the Wistar Institute. At Wistar, he recruited top biologists from throughout the world, and he is credited with major growth of the Institute.

Koprowski is the author of more than 850 scientific papers and is a member of many of the world’s most prestigious scientific societies. He has received honorary degrees from numerous universities and is the recipient of honors including the Philadelphia Award, the Scott Award, and the French Legion of Honor. He is a member of the National Academy of Sciences and the American Academy of Arts and Sciences. He was both a Fulbright Scholar and a Rockefeller University Fellow. He has been a continuous grantee of the National Institutes of Health for more than 50 years.

Currently, Koprowski is director of The Biotechnology Foundation Laboratories, as well as the Center for Neurovirology at Thomas Jefferson University.
Through a charitable gift annuity, you can join Wistar scientists in the fight against disease while earning a lifetime income for yourself. Support Wistar’s researchers as they work to develop new treatments for melanoma, lung cancer, and brain tumors and create new vaccines for flu and other diseases.

You can earn a return of up to 11.3 percent on your gift, depending on your age. You will receive an income tax deduction at the time of the gift, and a portion of your income will be deductible in the future. The minimum contribution is $10,000. Cash, stock, or other assets can be used to fund the annuity. This program is currently offered only to Pennsylvania and New Jersey residents.

For more information, call Peter Corrado in Wistar Development at 215-898-3930.
HAL DAVIS, co-vice chair of Wistar’s board of trustees, was presented with the Wistar Award at a gala in his honor October 27. Davis and his wife, Eleanor, have long supported breast cancer research at the Institute and once planted a Wistar flag on the summit of Mount Kilimanjaro. Below, Wistar president and CEO Russel E. Kaufman, M.D., right, and board chair Brian H. Dovey acknowledge Davis at the Four Seasons Hotel Philadelphia. Full story on page 12.