



DISCOVERY



LABORATORY • CLINIC • COMMUNITY • WORLD

Summer/Fall 2010



Frieden studies samples via a state-of-the-art microscope

IHV and Nigeria Partner with the U.S. to Combat Multi-Drug Resistant Tuberculosis from West Baltimore to West Africa

In the middle of June, the U.S. Centers for Disease Control (CDC) Director, Dr. Tom Frieden, visited the Nigerian National TB and Leprosy Training Center (NTBLTC) to tour a multimillion dollar laboratory complex established by the Institute of Human Virology (IHV) of the University of Maryland School of Medicine in Baltimore, Maryland, and the Institute of Human Virology-Nigeria. This U.S.-Nigeria partnership was established in 2004 through funding from the CDC and the President's Emergency Plan For AIDS Relief (PEPFAR).

The modular Biosafety Level Three (BSL-3) laboratory is the first of its kind on the African continent. Nigeria is ranked fourth in the world for TB and second for HIV -- a recipe for the multi-drug resistant form of tuberculosis

(MDR-TB), an airborne disease that has emerged in South Africa. The level of MDR-TB is not known in West Africa because of the lack of suitable diagnostic facilities. The new laboratory provides a means of determining the prevalence of MDR-TB and a safe environment for detecting the more severe form of extremely drug resistant TB (XDRTB) that is untreatable but can only be detected in a laboratory of the type implemented in the CDC-IHV partnership with the government of Nigeria.

"HIV and TB have formed a formidable and dangerous alliance," said Dr. William Blattner, Associate Director of IHV and Principal Investigator for the PEPFAR collaboration. "Our effort to eradicate these diseases must also be based on strong alliances demonstrated through partner-

DIRECTOR'S MESSAGE:

Science at the IHV Annual meeting in Calabria, Italy: A Snapshot of a few of the Highlights



Robert C. Gallo, MD

The Annual meeting traditionally opens with an exciting Basic Science section and 2010 was no exception. Andrea Cerutti (Weill Cornell Medical College) described the remarkable ability of HIV nef protein to reprogram the behavior of human monocyte/macrophages. Nef induced the formation of long macrophage processes that delivered proteins, including nef, to adjacent cells. These new findings on nef will stimulate renewed interest including the need to consider nef as a component in future vaccines, perhaps especially "therapeutic" vaccines rather than a preventative vaccine. Warner Greene (Gladstone Institute and member of the IHV Scientific Advisory Board) presented data on pyroptosis (a new term to many of us) and how this mechanism for cell

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ships with the government of Nigeria, and the CDC."

During the tour the CDC Director, who was accompanied by the incoming CDC Director for Global Health, Dr. Kevin DeCock, and country Director, Dr. Nancy Knight, commended the partnership for providing elite laboratory training to Nigerian health care personnel from hospitals and Direct Observed Therapy (DOTs) clinics across the nation. With this new BSL-3

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Volunteers Take to the Streets of Baltimore in Fight Against HIV/AIDS

Faith-Based Volunteers Provide “Safe Haven” for Testing

On July 19, hundreds of volunteers and medical staff took to the streets of Baltimore's communities to encourage individuals to visit one of fourteen free HIV testing locations located across the city. The group of volunteers was led by the JACQUES Initiative, a program of the Institute of Human Virology (IHV) at the University of Maryland School of Medicine, in partnership with the Maryland Department of Infectious Diseases and Environmental Health Administration (IDEHA), The Baltimore City Health Department, and numerous local faith-based and community organizations.

“The AIDS/HIV epidemic that is occurring in our country is one which has managed to remain relatively underreported, despite the fact that it affects millions each year,” said IHV Board of Advisors member and U.S. House of Representative Elijah Cummings (D-MD). “We can work harder, and do much better in combating this terrible disease, which has particularly been a scourge on the streets of Baltimore. Working with the faith-based community is just one way we must become more effective and efficient in our efforts to let people know they have the disease. This is the first step down the path toward ridding this nation of HIV/AIDS, once and for all.”

Leaders from City Uprising Baltimore and Project SHALEM came together again this past summer and combined their efforts to provide a day of free HIV testing, counseling and linkage to care. Building from their success last year of 900 tested, the initiative this year tested close to 1200 individuals. City Uprising Baltimore is part of an annual community service project led by Gallery Church and its members from across the nation while Project SHALEM is a sustainable,



JACQUES Initiative treatment coach, Kathy Bennett, reviews paperwork with a client, Eric Dunlap, who took advantage of the free HIV testing services offered that day.

yet unconventional partnership between medical providers and the faith-based community that seeks to take the stereotype and anxiety out of HIV testing through faith-based organizational support. The name, “Shalem,” has a universal expression in many faiths – Christianity, Judaism and Islam – symbolizing “peace” or “a safe place.”

Through Project SHALEM, more than 90 volunteers recruited by faith-based organizations such as Hopesprings have been trained to perform HIV testing in our communities. Volunteers are not limited to their faith-based affiliation and extend their services to places such as soup kitchens, transitional houses and even outdoor festivals to provide free HIV testing.

“I believe if you want to change a city you must engage the city,” states Derek Spencer, Executive Director of the JACQUES Initiative. “We can't sit and wait in our academic centers for people to present with AIDS, so we engaged community volunteers from a wide spectrum of organizations to increase our capacity in our efforts to reach Baltimoreans.”

Just in this past year, Project SHALEM has tested approximately 3,000 citizens for HIV and assured linkage to care to 67% of newly diagnosed and previous positives not currently engaged in care. We have also had the opportunity to share prevention messages with those who tested negative during each HIV test. “It has been an honor to share Project SHALEM with faith-based leaders and healthcare providers in hard-hit cities across the

nation, and in neighboring cities such as Washington, D.C.,” continued Spencer. “We have entire families, our JACQUES Initiative clients and businessmen all joined together to make a difference in the city's HIV crisis.”

“In Maryland, there are between 6,000 and 9,000 people who have HIV and do not know it,” said Heather Hauck, Director of the Maryland Infectious Disease and Environmental Health Administration. “We ask everyone to test for HIV at least once annually and to get into care if they are positive so that they can live longer and healthier.”

“This event known as ‘City Uprising’ is about friends working together,” said Pastor Ellis Prince of Gallery Church Baltimore. “Some of our friends work in the faith-based community, others in government, some the social sector and others in medicine. Some of our friends in Baltimore have HIV and don't realize it and others have HIV and feel they don't have a safe place to be treated and accepted,” said Prince. “City Uprising changes this, because hundreds of people are made a sacrifice for their friends.”

Prince continued, “Gallery Church's mission is to display God's greatness in Baltimore. When Gallery Church started City Uprising in 2009 we had no idea where it would lead. In the process, we have discovered so many amazing people leading organizations and helping to create safe places for people with HIV. Gallery Church Baltimore counts it a privilege and an honor for the second year in a row to serve as a launching pad for the JACQUES Initiative's Project Shalem program.”



Congressman Cummings prepares to enter Seventh Metro Church, Baltimore – one of 14 testing sites.



JACQUES Initiative Executive Director, Derek Spencer, speaks of Project Shalem during the press conference

DIRECTOR'S MESSAGE: *Continued from page 1*

killing is involved in destroying normal CD4 T cells during HIV infection. Importantly, this mechanism continues even in the presence of some antiretroviral drugs. These findings have great significance for understanding HIV disease mechanisms that continue, albeit at lower rates, in the presence of highly effective therapy. This is another justification for rapid implementation of preventive vaccines that will avoid the complications from chronic HIV infection.

The 2010 meeting also included noteworthy findings from clinical studies. Julie Overbaugh (Univ. of Washington) showed the importance of virus-specific antibodies for the control of HIV transmission from mother to child. High antibody levels in mothers were associated with lower transmission to infants, except for some cases where the HIV strain in the infant had mutated to "escape" the maternal antibody. The mother-to-child transmission setting will teach us much about antibodies that block infection, and may help to guide future vaccine trials. David Montefiori (Duke Univ.) described antibody responses in persons vaccinated during the successful RV144 or "Thai" trial of an HIV vaccine. He noted the requirement for including an envelope protein booster to reach protective antibody thresholds (an issue the IHV is targeting with the development of our full-length single chain vaccine). Unfortunately, the trial was plagued by short duration (approximately 8 weeks) of protective antibodies; overcoming the problem of antibody durability is another focus of research at IHV. These follow-up studies after the RV144 study that was done by Thai researchers and lead by Dr. Nelson Michael (U.S. Military HIV Research Program), who is helping

to define the requirements for a successful vaccine that will prevent HIV infection.

There were several important talks on more basic aspects of vaccine research. Among them, Susy Zolla-Pazner (New York Univ.) described elegant structure function studies on the V3 of the HIV envelope protein, which identified key regions that should be targeted in vaccines. These studies identified portions of this already small segment of the viral envelope glycoprotein (about 30 amino acids long) that are recognized by antibodies that are broadly protective against many HIV strains.

Epidemiology research presented at the meeting focused on cancer among persons with HIV, especially in sub-Saharan and southern Africa. Jim Goedert (National Cancer Institute) described the changing incidence of breast cancer in women with HIV; a disease that is increasing as infected women live longer due to therapy and is exacerbated by the presence of viruses using the chemokine co-receptor CXCR4. He postulated an association with envelope protein signaling through CXCR4 and thinks this association may be unique to breast cancer. Sam Mbulaiteye (National Cancer Institute) described the ongoing epidemic of Kaposi's sarcoma (KS), a tumor that is more frequent in persons with HIV disease and continues at high rates in parts of the developing world. Mbulaiteye's talk reinforced the need to continue research on KS and to understand the peculiar geographic associations with disease risk.

Alain Lefeuvre's (General Hospital, Toulon, France) therapy sessions were highlighted by his own superb review of our attempts to cure HIV infection by eliminating residual latent HIV infection which creates "reservoirs" of HIV that are poised to expand when treatment is interrupted. It seems the reservoir sites are growing in number as hematopoietic progenitors as well as T-regulatory cells join the list. In an attempt to eradicate these latently infected cells, Carl June (Univ. of Pennsylvania) described his long-range and brilliant studies of attempts to "destroy" CCR5 in target cells with his gene-therapy ex vivo



2010 meeting attendees gather together for a group picture.

approach. June targeted DNA nucleases against chromosomal CCR5 genes to destroy function and block expression of this crucial co-receptor for HIV. This is a bold effort to engineer potent resistance to HIV and create cell populations that will survive in infected patients. Jim Mullins (Univ. of Washington) described a method to mutate HIV out of existence. By treating with novel mutagenic nucleosides, he increased the rate of deleterious mutations in HIV and decreased viral infectivity. High mutation rates are a normal feature of HIV, which allows the virus to escape immune responses or conventional therapy. By forcing mutation rates to even higher levels, this mechanism was turned against the virus.

Our 2010 meeting also included surprising updates and new information from cancer research. Jeff Schlom (National Cancer Institute) described successful studies with a therapeutic vaccine for prostate cancer. When used in combination with chemo or radiation therapy, substantial life extension is being achieved. Ali Bazarbachi (American University, Beirut, Lebanon) had remarkable progress in treating for acute T cell leukemia, a disease linked to infection with human T cell lymphotropic virus 1 (HTLV-1) that we discovered in 1980. Bazarbachi's research focused on an arsenic-containing compound that earlier proved to be an advance in the treatment of some chronic diseases.

The 2010 meeting provided an opportunity to learn, discuss and argue about endogenous retroviral elements. Reinhard Kurth (Robert Koch-Institut, Germany), a long-time expert in this field, showed how these common elements within our genome, which have similarities to infectious retroviruses,

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University of Calabria Rector Giovanni Latorre and Mary Jane and Bob Gallo in downtown Cosenza, Italy.

Italy Hosts IHV Meeting in Ancient Calabria Region

For the first time, the 12th Annual Institute of Human Virology (IHV) of the University of Maryland School of Medicine International Meeting was held outside the Washington, D.C./Baltimore region and uniquely hosted in the ancient region of Calabria, Tropea, Italy. The meeting attracted approximately 300 scientists, clinicians and pharmaceutical representatives from around the world to explore the latest developments in the fight against HIV/AIDS, viral oncology and other infectious diseases. The world-renowned meeting – a tradition started by IHV Director Robert Gallo in the 1970's during his time at the National Cancer Institute (NCI) – is one of the world's leading virology conferences, particularly for basic research on HIV, and undoubtedly because of the level of expertise possessed by presenters and participants.

Prior to the IHV Annual meeting, IHV faculty vote each year for the prestigious Lifetime Achievement Award in Public Service and Lifetime Achievement Award for Scientific Contributions. Additionally, uniquely for this one and only year, the Institute's faculty unanimously voted to also bestow a Lifetime Achievement Award in Teaching and Education. Winners included:

IHV Board Member Harry Huger, 2010 recipient of the IHV Lifetime Achievement Award in Public Service: For his distinguished law career with, among others, American labor

unions and the country of Estonia and philanthropic work providing American students continued education scholarships.

Dr. Rino Rappuoli of Novartis Vaccines, 2010 recipient of the IHV Lifetime Achievement Award for Scientific Contributions: For his leadership in the research and development of vaccines, particularly for the first recombinant bacterial vaccine (against pertussis) and a conjugate vaccine against meningococcus C.

Dr. Michele LaPlaca, 2010 recipient of the Lifetime Achievement Award in Teaching and Education: For writing the manual "Principles of Medical Microbiology," (Esculapio, Bologna, Italy), the most widely used textbook of microbiology in the medical schools of Italian universities, which is currently in its 12th edition, and his teaching ability to captivate and motivate students into the field of microbiology.

"We are thrilled to have the opportunity to recognize the life-long commitments of Harry Huger, Rino Rappuoli and Michele LaPlaca for their uniquely important contributions to the mission of the Institute in advancing the human



Mr. Harry Huger

condition," said Gallo, Director and Professor of IHV. "This year's recipients follow in the grand footsteps of previous honorees including IHV Board of Advisors members Stewart Greenebaum and Martin Delaney and many world-renowned scientists" (listed below). I am also grateful to those dedicated Board of Advisor members attending the meeting in Italy, including Stewart Greenebaum and his wife, Marlene, Kathleen Kennedy Townsend and her husband, David, and Tim Moynahan."

Please save the date for next year's Annual Meeting held October 30– November 2, 2011 in Baltimore, MD.



Drs. Michele LaPlaca and Rino Rappuoli

Past IHV Awardees Lifetime Achievement Award for Scientific Contributions

- 1999 Georg Klein, Karolinska Institute, Stockholm Sweden
- 2000 Maurice Hilleman, Merck Research Laboratories, Sumneytown, Pennsylvania
- 2001 Hilary Koprowski, Thomas Jefferson University, Philadelphia, Pennsylvania
- 2002 Alexander Rich, Massachusetts Institute of Technology, Cambridge, Massachusetts
- 2003 Jan Svoboda, Institute of Molecular Genetics, Prague, Czech Republic
- 2004 Paul Zamecnik, Massachusetts General Hospital, Boston, Massachusetts
- 2005 Manfred Eigen, Max Planck Institute, Göttingen, Germany
- 2006 Maxine Singer, National Institutes of Health, Bethesda, MD
- 2008 Isaac Witz, Tel Aviv University, Israel



Timothy Fouts, PhD of Profectus Biosciences, Inc

Perhaps the biggest challenge for vaccinologists in combating the chronic virus HIV-1 is its ability to vary to the extreme: no immunogen elicits antibodies that are protective against all virus forms. Instead, the immune system produces many antibodies to the viral envelope known as gp120 and gp41 (the proteins on the surface of the virus that first interact with the cell and begin the infection) but they do not typically bind to the whole virus. When they do, they only neutralize a limited number of viral forms.

But now, says Dr. Timothy Fouts, formerly assistant professor of the Institute of Human Virology (IHV) and senior director at Profectus Biosciences, a spin-off company from the IHV, "With my IHV collaborators, we have technologies that I think are going to provide some significant breakthroughs in the development of an HIV-1 vaccine: in particular, we have a rather unique immunogen and a novel viral vector that are generating lots of promising results in animal models. Our next step is to test these concepts in people." IHV Director Robert C. Gallo, MD says "When Tim Fouts was here at IHV he was outstanding, particularly relating to the technology and development of the vaccine. I am happy we have stayed friends through our close collaborations since he joined Profectus."

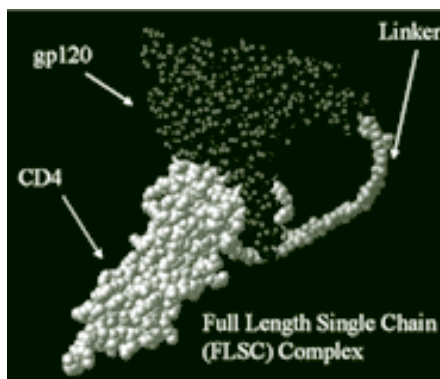
The unique immunogen is a

Taking HIV vaccines to the next step

chimera molecule containing both the envelope glycoprotein of a particular virus (gp120) fused to the primary receptor of HIV-1 (CD4) by a short stretch of amino acids called a "linker." The beauty of this immunogen is that the linker is long enough to allow the envelope and CD4 components to bind to each other as they would naturally but be maintained as a single chain-linked molecule. The result is a single subunit that can be formulated into a vaccine that mimics a key transition form of the envelope that the virus utilizes to enter its target cell. In vivo, this fused complex will produce antibodies that target the domains of envelope that interact with the co-receptor and are required for the virus to get into cells to propagate: "What the molecule does," says Fouts, "is focus the antibody response to those parts of the virus that are conserved among all HIV variants worldwide. Most importantly, it is the presence of these antibodies that correlates with protection in the animal models we have used." This past summer, Fouts was awarded a 3-year, \$3 million SBIR [Small Business Innovation Research] grant to Profectus and in collaboration with IHV's Dr. Tony DeVico through the National Institutes of Health (NIH) to begin production of this single-chain subunit immunogen for evaluation in clinical trials.

Along with testing the subunit alone, Profectus is also combining the immunogen into a novel viral vector based on vesicular stomatitis virus (rVSV), originally developed by Dr. Jack Rose at Yale University. This technology was enhanced at Wyeth, and is now in-licensed by Profectus. Fouts says, "Our hope is that we can exploit rVSV to develop an vaccine formulation that can be administered orally instead of by a shot in the arm." rVSV is particularly attractive vector for this job because

it can find those cells that initiate the immune response—dendritic cells and particular kinds of macrophages—to deliver its payload. Plus, animals studies show that a rVSV based Ebola/Marburg is 100% effective when given orally." Profectus is collaborating with the Institute for Human Virology to test the potential of a rVSV expressing the single-chain gp120-CD4 complex as an orally administered vaccine."



The work has been more than a decade in the making. In 2000, Fouts helped identify the gp120-CD4 complex as a promising target for anti-HIV vaccines and therapies at the Institute of Human Virology (IHV) of the University of Maryland School of Medicine while a Senior Post-doctoral Fellow. "While at the Institute," Fouts says, "I was a major collaborator with others at IHV doing the translational research you need to do to convert the technologies that we invented in the vaccine division into something that we could use clinically." So, in 2005, Fouts co-founded Profectus Biosciences, serving as principal scientist and in-licensing from the IHV many of the technologies he helped to invent, forming the foundation of the company's intellectual property assets.

Along the way, Fouts continued collaborating with IHV researchers and reported some success using the single-chain-complex approach in controlling of

simian/human immunodeficiency virus (SHIV), co-authoring a paper with IHV Drs. Gallo, George Lewis and Tony DeVico and others in the Proceedings of the U.S. National Academy of Sciences. After that, says Fouts, "We went to Wyeth. And Wyeth was very interested in this approach. And of the group that was interested in it, one of the members was John Eldridge," who became Profectus Biosciences' Chief Scientific Officer in 2008, bringing with him the rVSV technologies that he had helped optimize at Wyeth.

Now, Fouts says, Profectus Biosciences and further vaccine development is at a transition point: "The thing that affects us most today is our ability to get SBIR money. However, while SBIRs are nice, they generally don't have enough support to carry something like a vaccine all the way to the clinic. So we have to seek support, help and collaboration – for example, a key to all of us is the collaboration of the Bill and Melinda Gates Foundation." Some early trials are in the planning stages funded by the NIH and some from the Gates Foundation.

While he remains hopeful, Fouts says "A vaccine may not be enough to completely stop HIV. To really stem the HIV/AIDS epidemic, we may need some kind of combination product with one part being some sort of microbicidal agent—a self-applied prevention device—and the other being the vaccine. The results that were reported recently for tenofovir gel are extremely promising. Our vaccine may help put it over the top." Dr. Gallo, however, feels the vaccine is by far the key.



IHV and Nigeria Partner with the U.S. to Combat Multi-Drug Resistant Tuberculosis from West Baltimore to West Africa *Continued from page 1*

laboratory, Nigeria and neighboring countries can provide an accurate diagnosis of TB using simple, improved microscopy techniques. Further, a network has been established to report TB results – particularly the phenomena of MDR-TB – from various clinics across the nation and to send samples of TB tissue to the new, state-of-the-art BSL-3 laboratory, which has international clearance in its capacity to research such a deadly disease.

The laboratory is the brain child of Dr. Alash'le Abimiku, an Assistant Professor at IHV who works in partnership with Blattner and is originally from Nigeria. "This laboratory is very significant for Nigeria's ability to monitor the spread of MDR-TB in the country for appropriate response especially with the planned roll out of second line TB drugs in the country," she commented.

The BSL-3 laboratory adapted a new approach that involved the deployment of a high containment laboratory that was first built in the U.S. by Germfree, a US-based manufacturing company in Florida. The containerized laboratory has pre-filters to withstand the harsh dry and dusty winds in Zaria during the 'Harmattan' (the severe sub-Saharan dust storms) while providing a negatively pressured laboratory for the safe handling of MDR-TB cultures and other highly infectious agents. This will enable the Nigerian government to provide an immediate local response thus containing an emerging threat before it spreads to other parts of the country, and like that of HIV/AIDS, around the world.



Abimiku demonstrates the lab's technology to visitors

Prior to touring the facility, Dr. Frieden led a roundtable discussion where he advocated strengthening of the public health response through establishing and maintaining surveillance and building epidemiological and laboratory capacity. He stressed the importance of taking practical measures to keep TB at bay by ensuring that there is an effective HIV prevention program;

that there is a high quality treatment program for AIDS patients; that care providers work with the community to establish ways to keep patients adherent to their treatment and in care for both HIV and TB; and that the country has an effective TB control and surveillance program. Dr. Patrick Dakum, the IHV-Nigeria chief of Party, moderated the round table.



Drug sensitivity testing and training



Collecting supplies for culture and drug sensitivity training

Board Buzz

Lynch Joins GW Pharmaceuticals

On July 27, 2010, GW Pharmaceuticals announced the appointment of Tom Lynch as a non-executive director. Lynch will join the Remuneration Committee and the Audit Committee.



Tom Lynch

Dr Geoffrey Guy, Chairman, said, "We are very pleased to welcome Tom as a non-executive director. Tom has been a prominent member of the European biotech sector for many years and is one of a small select number of European executives to have direct experience in managing the transformation of a development stage biotech company into a prominent commercial-stage pharmaceutical business. As GW seeks to build on the recent approval and launch of Sativex, we believe Tom's experience will be invaluable to the GW Board in the years ahead.

GW was founded in 1998 and is listed on the AiM, a market of the London Stock Exchange. Operating under license from the UK Home Office, the company researches and develops cannabinoid pharmaceutical products for patients who suffer from a range of serious ailments, in particular MS and cancer pain. GW has assembled a large in-house scientific team with expertise in cannabinoid science as well as experience in the development of both plant based prescription pharmaceutical products and medicines containing controlled substances.

IHV Announces Three New Board Members

Janet Langhart Cohen

Janet Langhart Cohen is a former TV and print journalist who has interviewed corporate leaders and major heads of state. Her career began in Chicago, Illinois with CBS-TV. She received an Emmy nomination for role on the ABC-TV program, *Good Morning in Boston*. Ms. Langhart Cohen co-hosted the NBC-TV network program, *America Alive* before becoming a weekly columnist for the *The Boston Herald* newspaper and a spokesperson for *US News and Report*. Ms. Langhart Cohen has appeared on and hosted the C-SPAN TV program, *Afterwords*.



Janet Langhart Cohen

Ms. Langhart Cohen is an author and playwright, having written her memoir, *From Rage to Reason: My Life in Two Americas*. She co-authored a book with her husband, the former Secretary of Defense William S. Cohen, and together they have edited one book and several papers on race in America. She wrote the play, *Anne and Emmett*, an imaginary conversation between Anne Frank and Emmett Till. Ms. Langhart Cohen is the co-founder of RARIA.org and founder of The Citizen Patriot Organization, which supports quality of life of our military service members and their families.

Sheilah Kast



Sheilah Kast

Sheilah Kast, host of *Maryland Morning*, brings wide experience in radio, television, and newspapers to WYPR. She learned the craft of broadcasting at ABC News, where she was a Washington correspondent for fifteen years. Her reporting ranged from the White House to Congress to the historic 1991 coup attempt in Moscow, which signaled the end of the Soviet Empire. Her first public-broadcasting venture was done in association with *BusinessWeek* magazine in the late 1990s. Sheilah began and hosted a weekly national public television show, *"This Week in Business,"* on which she analyzed breaking developments in business, interviewed business leaders, and discussed trends in personal finance.

Public radio listeners have heard her host NPR's Sunday morning magazine, *Weekend Edition Sun-*

day, when Liane Hansen is unavailable. She has also substituted for Diane Rehm. Sheilah's focus during most of her reporting life has been on the economy and workplace, and how they affect people's everyday lives. She began her career at *The Washington Star* newspaper, where she covered the Maryland and Virginia legislatures, as well as county governments and schools. After electricity rates shot up during the 1970s, she moved to the *Star's* business staff to cover utilities, energy and taxes, as well as financial and banking regulation. She lived in Romania for two years where her husband, Jim Rosapepe, served as U.S. ambassador. He now serves in the Maryland Senate, representing the 21st District (Prince George's and Anne Arundel Counties).

Sharon Malone, MD

Dr. Sharon Malone is a partner of Foxhall Ob/Gyn Associates and an Associate Clinical Professor of Obstetrics and Gynecology at The George Washington University. She received a B.A. in Psychology and Human Relations from Harvard College in 1981. Prior to attending medical school at Columbia University College of Physicians and Surgeons, she was a Systems Engineer with the IBM Corporation. Dr. Malone has been in private practice in Washington, DC since 1992. She has consistently been voted one of *Washingtonian Magazine's* "Best Doctors." She is a board member of the DC Campaign to Prevent Teen Pregnancy, an advocacy organization whose primary mission is to curb teen pregnancy and to improve the lives of the young people of the District of Columbia. Dr. Malone is on the Board of Trustees of the Historic Ford's Theater and an avid supporter of *The History Makers*, an organization dedicated to preserving the contemporaneous oral histories of prominent African Americans. She has dedicated her professional life to improving the quality of life for women of all ages.



Dr. Sharon Malone



Promotions

C. David Pauza, PhD was promoted to Associate Director of the IHV.

O'Neill on IHV's PEFAR Programs

The U.S. President's Emergency Plan for AIDS Relief (PEPFAR) is the largest global health initiative directed against a single disease in history. In the seven years since it was launched by former U.S. President George W. Bush PEPFAR has



Dr. Joseph O'Neill

increased the number of HIV/AIDS patients receiving antiretroviral therapy in sub-Saharan Africa from 50,000 to nearly 2.5 million. Remarkably, the Institute of Human Virology of the University of Maryland School of Medicine's global programs led by Drs. Blattner and Redfield are responsible for more than 10% of this total.

This is especially significant in light of the historic scientific contributions that IHV's founder and director, Dr. Robert Gallo has achieved in the fight against AIDS. The work that began in his laboratory more than 25 years ago has made it possible for many people living with HIV today to live normal life spans and enabled millions of the most vulnerable women, men and children in Africa, the Caribbean, and elsewhere to have the same chance at life as the privileged in the developed world.

The director of the University of Maryland's global initiatives, Dr. Joseph O'Neill served as the White House "AIDS Czar" when PEPFAR was conceived and launched, and in President Bush's words, was the "architect" of the initiative. When he joined the University of Maryland, Baltimore (UMB) family just over a year ago, Dr. O'Neill acknowledged the privilege of working with IHV and the rest of the University of Maryland faculty as well as the unique, even historic, opportunity afforded by UMB and IHV to impact global health. "I am humbled to have been able to help translate the key scientific discoveries made by Dr. Gallo and his colleagues into a medical treatment, prevention and care program that has saved, literally, millions of lives. The work of Drs. Redfield and Blattner and their teams in global health represent the best of the U.S. effort in global health and give strong evidence to what vision, scientific rigor, hard work

and compassion can do to change the world."

IHV's global programs have taken UMB's tradition of care, education and discovery to a global scale. "Traditionally, the academy has engaged global health from largely a research perspective," said O'Neill. "UMB's PEPFAR programs have placed education and care agendas alongside of research in dramatic and highly complementary ways. It is also important to understand that these care and education programs provide an important substrate upon which to build future research efforts."

Since 2004, Dr.

Blattner's program in Nigeria, the AIDS Care and Treatment in Nigeria (ACTION) project has expanded to 139 local facilities across 26 of 36 states in Nigeria and have provided care to 126,097 HIV-positive adults and children, antiretroviral treatment to 83,359 adults and 5,501 children, prevention of mother-to-child HIV transmission services to 490,660 mothers, and HIV prevention and education to 256,093 high-risk individuals. In the course of this expansion, over 15,000 physicians, nurses, community health extension workers, and laboratorians have been trained.



Dr. Blattner

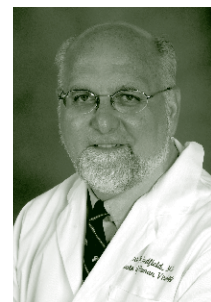
In 2004, the Division of Clinical Care and Research developed a consortium known as AIDSRelief which contains Catholic Relief Services, Catholic Medical Mission Board, Interchurch Medical Assistance, Futures Group, and IHV) and was awarded a five year, more than \$380 million grant. The Division of Clinical Care and Research's role is to provide technical assistance and stewardship to the grant. This grant was renewed in 2009 for four additional years with a potential for a one year extension. During that time, we have been providing care and treatment for over 500,000 people, making a significant overall contribution to the PEPFAR program.

The Division of Clinical Care and Research has focused on five levels of international engagement:

1. Emergency response
2. Local health care capacity
3. Transition of technical assistance leads to local health care professionals
4. Targeted institutional strengthening of key institutions in-country
5. Development of long term projects in operational research

Building on this strategy over the past 12 months, the Division of Clinical Care and Research has secured seven additional international grants in advanced clinical education and institutional strengthening to enhance our research infrastructure.

The PACE grant (Partnership for Advanced Clinical Education) was awarded for five years by CDC for the purpose of implementing international medical education in 4 components (physician training, nurses training, laboratory training, and pharmacy training), in collaboration with the University of Nairobi.



Dr. Redfield

The PACT grant (Partnership for Advanced Clinical Training) was awarded for five years by CDC for the purpose of providing technical assistance of HIV care and treatment to the Kenya MOH, in collaboration with the University of Nairobi.

The COE grant (Center of Excellence) was awarded for five years by CDC for the purpose of developing three Centers of Excellence for advanced medical education and clinical research at five major teaching hospitals in Nairobi, in collaboration with the University of Nairobi.

The MEPI grant (Medical Education Partnership Initiative) was awarded for five years by NIH to develop an international clinical research structure, in partnership with the University of Nairobi and the University of Washington.

It is anticipated that over the next 24 months, additional grant opportunities will be made available by the US government.



Liceo Scientifico Statale

"Michele Guerrisi"

Contrada Casciari - 89022 Cittanova (RC)

Tel-Fax 0966/661120 - 660056 - 661600 - @-mail reps060002@istruzione.it

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Professor Robert Gallo
All the Professors present

12th Annual Meeting International Institute of Human Virology
(University of Maryland)

Doctor Vincenzo Nasso, Headmaster of Liceo Scientifico "M. Guerrisi", (a High School specializing in Science, in Cittanova, Calabria), the students and the teachers are profoundly grateful to Professor R. Gallo for the deep honour granted with his visit of October, 4th 2010 and for his contribution by which an annual and permanent scholarship will be established in favour of the best students who want to enter upon a scientific career. They wish Professor Gallo to be successful especially in giving humanity the vaccine to defeat AIDS.

Moreover they thank him, as Calabrians, for the choice to hold the 12th International Meeting in their region, so that a lot of great scientists and scholars coming from all over the world have had the possibility to see it.

They ask all the other great scientists to be as available as Professor Robert GALLO for a possible visit to Liceo Scientifico "M. Guerrisi".

Their presence and their evidence can arouse a deep love for science and study in the young students of this school, in the hope that with their future researches they can become some benefactors of humanity, like Professor Gallo and all the other scientists present at this prestigious meeting.

Cittanova, October, 8th 2010



The Headmaster
Vincenzo NASSO

Contacts:

mail: vnasso@alice.it; reps060002@istruzione.it

tel: +39-0966-661120

fax tel :+39-0966-660056



DIRECTOR'S MESSAGE:

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evolve and seemingly spread in human populations. Mark Kaplan (Univ. Michigan and IHV Board of Advisors) and his colleague David Markovitz (Univ. Michigan) showed high levels of endogenous retroviral elements in blood from patients with advanced HIV disease and in lymphoma tissues. Long known to be a substantial fraction of the human genome, the behavior of retroviral elements and their roles in human disease are areas of great scientific interest and equally great controversy. We look forward to many more studies that may resolve fundamental questions in the interesting field.

The 2010 Annual Meeting of the IHV took a risk by moving, for the first time, to an international location. We feel highly rewarded by this experience, as we brought much needed attention to science and technology for Italy's very ancient Magna Graecia region of southern Italy. It was much easier travel for colleagues and students from Europe, the Middle East or Africa, and we confirmed our commitment to science as an international pursuit and we greatly appreciated the beauty of the area and the kindness of the people. We return to Baltimore for the 2011 Meeting with stronger international ties, new views of HIV/AIDS and cancer, and a renewed commitment to the value and need for this type of interdisciplinary meeting that encourages and accepts a broad range of scientific viewpoints.

A special word of thanks to IHV Board members Stewart Greenebaum, Kathleen Kennedy Townsend and Tim Moynahan, all of whom traveled to be with us. Special thanks to Moynahan for his encouragement and advice to the Global Virology Network project, which had two informal gatherings in Calabria that were attended by advisers and center directors from the U.S., Europe, Asia, and India. We especially acknowledge the 2010 winners of the IHV Lifetime Achievement Awards for Public Service (Harry Huge, another IHV Board member), Scientific Contributions (Rino Rappouli of Novartis, Italy) and Teaching and Education (Michele La Placa, Sienna, University of Bologna). We thank our many supporters, especially the National Institutes of Health (NIH), including the National Institute of Allergy and Infectious Diseases (NIAID), the Office of AIDS Research (OAR), and the National Cancer Institute (NCI). I also thank the University of Calabria (Cosenza, Italy) not only for support but their co-organizational input. A special thanks to Arnaldo Caruso (Univ. of Brescia), a native to the region, and in particular Rettore Giovanni Latorre (Univ. of Calabria). It only remains to say: Welcome to the 2011 meeting October 30 to November 4 in Baltimore.

Gallo Receives Prestigious Award by the Friends of the National Library of Medicine



Joe O'Neill, MD, MS, MPH, Visiting Professor of Medicine and Director, Global Health Initiatives, University of Maryland; Steven Davis, MBBS, FACP, Theodore E. Woodward Professor and Chair of Medicine Physician-in-Chief, University of Maryland Medical Center; Dennis Narango, MA, Associate Dean for Development, University of Maryland School of Medicine; Robert Redfield, MD, Assistant Director, Institute of Human Virology; Gallo; and, William Blattner, MD, Assistant Director, Institute of Human Virology

Robert C. Gallo, MD, Director of the IHV, was honored with the Paul G. Rogers Medical Science Award at the Friends of the National Library of Medicine 10th Annual Awards Dinner, Celebrating Leadership in Public Health and Medicine, held May 11, 2010, in Washington, DC. The Award is named after the late Congressman from Florida. Rogers for 24 years, and in so many endeavors in the years since he retired from Congress in 1979, maintained a career-long commitment to public health and biomedical research. As an expression of the priority he felt should be given to health research, the man widely known as "Mr. Health" often said, "Without research, there is no hope!" Gallo was honored with the Award for "his revolutionary discovery of the HIV virus and for his contributions to innovations in testing and treatments of the global AIDS epidemic."



Frank Bonner, MD, President, Friends of the National Library of Medicine Board of Directors and Gallo

Grants



Clement Adebamowo, M.D.

Clement Adebamowo, M.D., Associate Professor, Institute of Human Virology, received a three-year, \$1.5 million award from the National Institutes of Health entitled “Capacity Development for Research into HIV-Associated Malignancies in Nigeria” (CADRE).

This training program targets development of clinical trials and cancer research expertise at the Institute of Human Virology Nigeria and its academic research partners. The expected impact is participation in an increasing number of epidemiology and clinical trials protocols, improvement in cancer registration, HIV-cancer linkage studies and management of AIDS associated cancers in Nigeria

Anthony Amoroso, M.D., Assistant Professor, Institute of Human Virology, Section Chief of Infectious Disease Veterans Affairs Medical Center, Baltimore, MD received a five year \$15,550,000 President’s



Anthony Amoroso, M.D.

Emergency Plan for AIDS Relief (PEPFAR) grant through the Centers for Disease Control and Prevention (CDC) National Center for HIV, STD, and TB Prevention, entitled, “Partnership for Advanced Care and Treatment (PACT) Supporting the Implementation and Expansion of High Quality HIV Prevention, Care and Treatment Activities at Facility and Community Level in the Republic

of Kenya” This grant will implement a comprehensive HIV prevention, care and treatment program to facilitate the Ministries of Medical Services and Public Health in Kenya to control the spread of HIV and rapidly scale up HIV within the province of Nairobi.



William Blattner, M.D.

This NeuroAIDS Natural History Study will investigate the pathogenesis of neurological consequences of HIV infection.

Robert Redfield, M.D., Associate Director, Institute of Human Virology, Professor of Medicine, Director of the Infectious Diseases Division, the University of Maryland School of Medicine, received a one-year \$2,010,000



Robert Redfield, M.D.

President’s Emergency Plan for AIDS Relief (PEPFAR) continuation grant through the Centers for Disease Control and Prevention (CDC) National Center for HIV, STD, and TB Prevention, entitled, “Partnership for Advanced Clinical Education (PACE) Strengthening Pre-Service

and In-Service HIV Training in the Republic of Kenya.” This grant will build upon the strong foundation laid in Year One, including a comprehensive needs assessment, nationally adopted HIV competencies for health workers, modular Levels 1 & 2 curricula, initial training of trainers for faculty and national mentors, and piloting of a final year student curricular. Year Two will expand support to Universities for faculty and student training, and will expand in-service support out to the regions through developing four regional mentorship sites at local district or Level 3 Health Facilities.

Robert Redfield, M.D., Associate Director, Institute of Human Virology, Professor of Medicine, Director of the Infectious Diseases Division, the University of Maryland School of Medicine, received a one-year \$248,570 continuation subcontract from Catholic Relief Services for his work entitled, “Integrated Support for ART and PMTCT (ISAP).” As clinical lead for ISAP, IHV will develop and implement activities to support capacity building in the provision of comprehensive PMTCT care and treatment services to beneficiaries in collaboration with the Ministry of Health. These services will include HIV testing, medical, nursing and psycho-social care, adherence training, care service delivery system strengthening, and palliative care staff support. IHV will contribute to the overall program medical strategy, which will enable the grant to deliver technical assistance aimed at promoting program sites – Local Partner Treatment Facilities– toward high quality and sustainable care.

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Questions/Comments? Contact Nora Grannell, NGrannell@ihv.umaryland.edu
Editor: Nora Grannell
Writer: Nora Grannell
Design: Graphic Solutions

The Institute of Human Virology (IHV) at the University of Maryland School of Medicine is a world-class center of excellence focusing on chronic viral diseases, most notably HIV/AIDS, and virally linked cancers. IHV is dedicated to fundamental and clinical research leading to improved treatment and prevention of these diseases. Our unique structure connects cohesive, multidisciplinary research and clinical programs to streamline new treatments from discovery to patient. IHV serves the global scientific community and treats patients at clinics in Maryland, across Africa and in the Caribbean.

Kupcakes for Kids: A Community Event for IHV's Clients

Remember the feeling of getting ready for the new school year, the scent of fresh pencils and paper, new shoes... Not every child is fortunate enough to look forward to the start of school. Imagine you are a parent, you are HIV positive, living on a fixed income and barely able to afford stable housing, let alone transportation to your medical appointments. Your dream is to see your children graduate high school and hopefully attend college. September, the start of the new school year, is a month of hope for parents and their children. New notebooks, new backpacks, still pointy crayons never used, all contribute to the feeling that anything is possible if you work hard in school.

The Social Work Program at the University of Maryland's Adult HIV program participated in enhancing the beginning this new school year. "Kupcakes for Kids" was conceived by the Social Work Program and supported by the leadership of the IHV. More than 55 children of the HIV clinic's adult population have been identified by their social worker's as benefitting from assistance with obtaining new school supplies. The ages of the children benefitting from "Kupcakes for Kids" ranged from 4 yrs to 16 yrs. Between the hot summer months of July and August, the social work staff led a campaign to collect school supplies and sell cupcakes and other baked goods to raise money for our client's children. Among the key lime cupcakes, brownies, cookies and other goodies, was a message: "help our kids start the school year feeling hopeful, feeling prepared and feeling proud." Employees and visitors to the hospital could not help but stop to inhale the aroma



IHV Dr. Lori Fantry's daughter, Heather, helps prepare backpacks for the new school year

of these delicious freshly baked treats while knowing that each donation will help a child.

At the start of the 2010-2011 school year, our social work team distributed custom filled, age appropriate backpacks to the children of our HIV positive patients. We'd like to extend a special thank you to our colleagues and friends for their generous donations of money and school supplies and the talented bakers who made this grassroots effort a success.



Institute of Human Virology
725 W. Lombard Street
Baltimore, MD 21201

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