



Asokoro Laboratory Training Center was developed in 2004 by IHV to train the cadre of Nigerian laboratory scientists needed to respond to Nigeria's HIV epidemic. In the last 10 years, over 25,000 laboratory scientists have been trained by IHV.

Institute of Human Virology (IHV) Recognizes Ten Years of PEPFAR

June 18 marked ten years since the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), a \$48 billion initiative launched by former President George W. Bush and continued by President Barack Obama. Through unique partnerships, including those between academia and foreign governments, PEPFAR has managed to put the first real dent in the global AIDS response. The Institute of Human Virology (IHV) at the University of Maryland School of Medicine has actively participated and led PEPFAR-funded programs to help developing nations learn how to diagnose, treat, and prevent their own AIDS epidemics.

IHV Director Dr. Robert C. Gallo, who pioneered the field of human retroviruses with his discoveries of HTLV-1 and HTLV-2, co-discovered HIV as the cause of AIDS, and developed the HIV blood test that has saved many hundreds of thousands of lives, said "Through their work in seven African and two Caribbean nations, my colleagues Robert Redfield and William Blattner have shown us that PEPFAR works. While we take the time to recognize ten years since PEPFAR, I encourage the Administration to consider implementing PEPFAR for the hardest hit regions in the U.S. We should continue honoring our commitment overseas while tackling the problem here at home."

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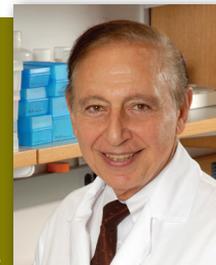


Director's Message:

After one year of planning, overcoming language barriers, developing friendships and a major fundraising effort, the Institute of Human Virology (IHV) hosted its 15th Annual International Meeting in Moscow, Russia in partnership with the Moscow Center for HIV/AIDS Prevention and Treatment and the Global Virus Network (GVN). As part of the first ever "Moscow International Virology Week," the 15th Annual Meeting reflects the Institute's commitment to international cooperation in science and medicine.

Bringing together world experts in HIV, hepatitis viruses and several other viral diseases, this meeting blended outstanding scientific presentations, discussions of health policy and clinical education. Going far beyond our expectations, we created stronger links between Russian and international medical virologists, signaled our willingness to participate in joint physician training or education activities, and helped bridge the gap between our countries. Let me give you a few highlights of the week's activities.

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Moscow City Hall

Director's Message continued

During the first day of the IHV Meeting, we heard about advances in vaccine research. The day blended presentations by local scientists from Moscow and the surrounding regions, with presentations by international experts in basic immunology and vaccines including Antonio Lanzavecchia from Switzerland who spoke about broadly neutralizing antibodies against influenza. A lively session led up to José Esparza of the Bill & Melinda Gates Foundation, speaking on “30 Years of HIV Vaccine Research.” In this special lecture, Dr. Esparza gave his personal views of this field from the perspective of one who has advocated and managed research on HIV vaccines for nearly 3 decades.

On the second day of our meeting, Monday, September 9, the meeting opened with discussions on Advances in Antiviral Drug Discovery featuring a presentation by Jan Balzarini on the development of novel antivirals against HIV. After lunch we were treated to the Opening Ceremony attended by Moscow city and federal representatives who welcomed participants to Moscow International Virology Week, and recognized the very important contributions of our co-hosts, our Institute, and Alexey Mazus, M.D., Director of the Moscow Center for HIV/AIDS Treatment and Prevention. Following the opening ceremony we continued our scientific program and concluded the day with presentations of IHV's Lifetime Achievement Awards for Scientific Contributions and Public Service. An important feature of the annual meeting, these awards are bestowed by the IHV on individuals of substantial merit who were selected by a process of nomination and voting within the

faculty of the Institute. This year, we recognized Vadim Agol from Moscow with the Award for Scientific Research, honoring his lifetime of contributions to RNA virus research with emphasis on his special knowledge and influence over the field of poliovirus eradication. The Lifetime Achievement Award for Public Service was presented to the previously mentioned José Esparza. In addition to serving as a senior advisor on vaccines to the Bill & Melinda Gates Foundation, José is a native of Venezuela who lived a nomadic life ending in the United States, as he pressed forward in his pursuit and advocacy for preventive HIV vaccines. An honorific lecture recognizing contributions of these two great men was presented by Konstantin Chumakov from the United States Food and Drug Administration. Konstantin recalled the central role played by his father, Mikhail



Dr. Konstantin Chumakov, from the U.S. Food and Drug Administration.

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Institute of Human Virology (IHV) Recognizes Ten Years of PEPFAR *(continued from cover)*



Thousands of Nigerian Pharmacy Program Officers were trained on ARV drugs in the past 10 years and "multidisciplinary switch committees" were developed and mentored to identify patients in need of a regimen change.

Through PEPFAR, IHV has treated nearly 750,000 patients with antiretroviral medications and close to 4 million people have received prevention interventions and HIV testing. Additionally, IHV has trained 35,000 in-country health care professionals who have delivered more than 100 million doses of medication.

IHV Associate Director Dr. William Blattner and his IHV colleagues in the Division of Epidemiology and Prevention established the Institute of Human Virology, Nigeria (IHVN), a not-for-profit corporation as the mechanism that allowed \$294 million in PEPFAR grant funding over the last nine years. The impact of IHVN is best measured in the clinical care, treatment, and prevention services to 944,004 Nigerians who were counseled and tested for HIV; 896,555 mothers who were screened to prevent infections of their babies; 139,857 patients who received antiretroviral therapy; and 32,749 health care workers who were trained.

"PEPFAR has been an extremely successful public health program -driving down new infections rates in Sub-Saharan Africa by 25% and building capacity in these countries to manage their individual epidemics," said Dr. William Blattner. "I am very proud of the role our Institute has made in translating our basic science, clinical and epidemiologic work into public health practices to save so many lives."

IHV's Division of Clinical Care and Research, under the leadership of IHV Associate Director Dr. Robert Redfield, has provided emergency response training, treatment, and infrastructure in Ethiopia, Guyana, Haiti, Kenya, Nigeria, Rwanda, Tanzania, Uganda, and Zambia. These teams are committed to making a sustainable impact on current global health priorities; providing anti-retroviral therapy to more than 400,000 people;



A trainee counts CD4 T-cells at a laboratory in Zambia.

providing healthcare to more than 700,000 individuals; and, making a significant overall contribution to the PEPFAR program.

"PEPFAR is the largest public health program in global history," said Dr. Robert Redfield. "The IHV Clinical Division supports more than 250 sites in 10 countries. In each of these locations, we have strong programs providing training, care and treatment."



Healthcare workers educate villagers in Malawi.

Director's Message continued (continued from page 2)



Dr. Jan Balzarini, Rega Institute, Belgium.

Chumakov, who invited Albert Sabin to Moscow in the late 1950s and together, they completed development of the first attenuated poliovirus vaccine, and used this material to control poliomyelitis in Russia even before the oral vaccine was approved in the United States. Konstantin elucidated the complex and confusing obstacles that are preventing poliovirus eradication in the world today, and discussed a rational strategy for maintaining control over this ever-present, deadly disease.

Tuesday morning included the session on Mechanisms of Viral Pathogenesis which began with the Reinhard Kurth Honorary Lecture introduced by myself and presented by William "Billy" Hall from University College Dublin. Recognizing the outstanding career of our close friend,

Reinhard Kurth, (former Director of the Paul Ehrlich Institute and the Robert Koch Institute, and Chairman of the Foundation Council at Ernst Schering Foundation in Berlin, Germany) his enduring friendship, many contributions to the Institute of Human Virology, and being co-founder of the Global Virus Network, Dr. Hall honored him with a scientific presentation on his own research. The remainder of that session examined mechanisms for HIV disease and included two presentations on filoviruses that focused on structural biology of their assembly. The session was closed by a special lecture by Vadim Agol on the interplay between host defenses and virus anti-defenses. In the afternoon, a session on Mechanisms of Virus Transmission looked at multiple viruses to compare how they are spread in the population. Diane Griffin from the Johns Hopkins Bloomberg School of Public Health discussed her research on protective immunity against the measles virus. Barry Beaty from Colorado State University described significant advances in altering mosquito physiology that blocks the spread of Dengue virus. HIV, Rift Valley Fever Virus, arboviruses, and influenza were also discussed in this very interesting session.



L to R: Drs. Alexey Mazus, Head of Moscow Center for HIV/AIDS Prevention and Treatment, Alexey Khripun, Associate Head of the Moscow Healthcare Department, Robert Gallo, Director of IHV, and Jose Esparza of the Bill & Melinda Gates Foundation, during one of several press conferences.



Dr. Ulrike Protzer, TU Munich, Germany.

The IHV Meeting concluded with a Wednesday morning session on Viruses and Cancer. Dr. Gallo opened the session with a few comments on this very important field followed by Silvia Franceschi from the World Health Organization, who described how viruses are contributing to higher rates of human cancer world-wide. The session continued with discussions on hepatitis C virus, human papilloma virus, tumorigenic polyoma viruses, herpes viruses, human T-cell leukemia virus, and concluded with a presentation by our own Bill Blattner about the epidemiology of HIV and cancer in Africa.

In addition to these traditional sessions in the IHV Annual Meeting, a variety of other events occurred in parallel. Tuesday included a very important discussion by a Specialized Committee of the Health Ministry of the Russian Federation on HIV Care and Management, followed in the afternoon by a Roundtable Discussion on Specialized Care for HIV patients with Co-morbidities including Hepatitis viruses and Tuberculosis. On Wednesday afternoon, we hosted a session on Clinical Management of Co-Morbidities in HIV/AIDS led by Drs. John Bartlett of Johns Hopkins University, our own Bob Redfield, and our Russian host, Alexey Mazus. This session consisted of scientific and clinical best-practices presentations by world's leading experts in co-morbidities of HIV/AIDS that include metabolic disease, cancer, viral hepatitis, kidney disease, and tuberculosis. Local sessions on Drug Addiction and Associated Viral infections, Continuing Medical



L to R: Dr. Robert Gallo and IHV Lifetime Achievement Award honorees, Drs. Vadim Agol and Jose Esparza.

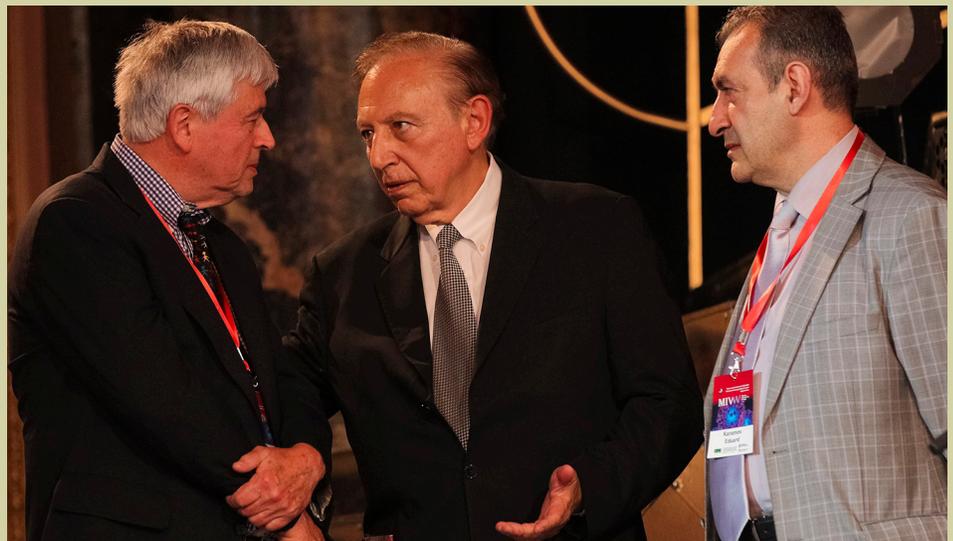
Education for Infectious Disease Specialists and other specialized events were held for advanced education of Russian physicians who were gathered from all regions of the country to attend this meeting.

Thursday saw a continuation of specialized local sessions, addressing in great detail the challenges of clinical management of patients with HIV/AIDS in Russia. Thursday also had a meeting of the Global Virus Network, attended by numerous board members from the GVN and many of the Directors from GVN Centers of Excellence in medical virology from around the world. The GVN heard an important presentation from new GVN Board Chair, G. Steven Burrill, and discussed the GVN's mission, priorities, and future funding.

Even these intense events were not enough to complete our schedule in Moscow! Mr. Burrill and I presented public lectures at the First Medical University of Moscow, where we were greeted by overflowing crowds of students and faculty of the University. Bob Redfield and John Bartlett also presented public lectures across town at the Moscow School of Medicine and Dentistry where they had similar responses and great enthusiasm for their presentations. We were treated to a truly delightful evening of entertainment including a small dinner on Sunday night with musical accompaniment from a troop of Georgian singers who were invaded temporarily by Luigi Buonaguro of University of Naples, Italy (he somehow

learned to speak their language within minutes). On Monday evening, Alexey Mazus and his wife Alexandra hosted us for the Annual IHV Awards Banquet where we ate and drank well, and then listened to some serious and not so serious comments about our Lifetime Achievement Award winners, followed by their rebuttals. It was a great evening and a wonderful time to celebrate this year's awardees.

An event of this magnitude requires very dedicated efforts on the part of many people. I am grateful to our co-organizer Alexey Mazus for being a great partner and for assuming a significant portion of the financial burden through his own fund-raising activities. He assembled a great team



L to R: Drs. Max Essex of Harvard University, USA, Gallo of IHV, and Eduard Karamov of the Ivanovsky Institute of Virology and Gamaleya Institute, Russia.

and together we conducted a wonderful event. I am very grateful to staff from the IHV including Debbie Mullins, Nora Grannell, and Lauren Moscato, and GVN President Sharon Hrynkow and program director Robert Karrs, who supported all aspects of program development, media relations, and logistics for our international speakers. Finally, I would like to thank Dave Pauza for his extraordinary work on this meeting. Dave was principally responsible for day-to-day management of this affair and for smoothing over the small and often large obstacles that threatened to prevent this event from occurring.

By hosting our meeting in Moscow, we sought to make an important statement about the importance of international collaboration and cooperation, in both science and medicine. We recognized a timely opportunity to bring our countries closer together and overcome what seemed to be a widening gap that would only impede science and reduce the quality of medical care for all. We are extremely proud of this meeting and believe it was highly impactful in many areas. We look forward to our new collaborations with our colleagues in Russia—including training Russian HIV/AIDS clinicians here in Baltimore. Again, thanks to everyone who participated and supported the meeting. We look forward to welcoming you in 2014, when we are once again in Baltimore.

City Uprising—HIV Outreach Day Promotes Interprofessional Practice and Community Outreach



Volunteer stands under a sign encouraging participants to be tested at a City Uprising HIV Outreach Day site.

In response to the 56,000 new HIV infections in the United States each year and in commemoration of National HIV Testing Day, the JACQUES Initiative, a program of the Institute of Human Virology at the University of Maryland School of Medicine, led the University of Maryland, Baltimore (UMB) in an event this past summer to increase awareness and access to health care in Baltimore City.

More than 500 volunteers, including faculty, staff, and students from UMB, offered free HIV testing and comprehensive health services to more than 700 citizens as part of City Uprising HIV Outreach Day, an annual event that is led by the JACQUES Initiative's Project SHALEM, in partnership with the Gallery Church of Baltimore and HopeSprings.

"In order to address the HIV epidemic and other health disparities in Baltimore, it is crucial that academic medical

centers team up with the community," said Derek Spencer, MS, CRNP, executive director of the JACQUES Initiative. "City Uprising HIV Outreach Day is the model for the future to increase access to care and improve health in urban centers across the country."

In 2009, the JACQUES Initiative launched Project SHALEM, which aims to engage the community to address the HIV epidemic. That same year, the Gallery Church asked the JACQUES Initiative to help facilitate a day devoted to HIV testing and linkage to care, as part of a four-day faith-based event dedicated to community service. Since then, Project SHALEM has provided HIV outreach, testing, and linkage to care to more than 10,000 individuals through the work of volunteers and UMB students.

"This year demonstrated the campus' commitment to reaching the community through interprofessional service," said Jamie Mignano, RN, MSN, MPH, program director for development and information dissemination at the JACQUES Initiative. "It's a great community effort where Baltimore benefits from people coming together from all walks of life to meet critical health and psychosocial needs."

In addition to the free HIV services, this year University volunteers facilitated more comprehensive services, which included case management, legal referrals, blood pressure screenings, oral cancer screenings, healthy lifestyle education and planning, and medical reconciliation at four sites across the city: St. Matthew's New Life United Methodist Church in Barclay, Payne Memorial A.M.E. Church in Madison Park, Unity United Methodist Church near Harlem Park, and Esperanza Center in Fells Point.

"This is more than just encouraging people to get tested for HIV or seek HIV treatment," said Alexandra "Allie" Reitz, program



Volunteers assist participants to fill out paperwork and consent for HIV testing.

coordinator for community and external affairs at the JACQUES Initiative. "It's an opportunity for different disciplines to treat the whole person," she said. "Over 40 percent of people diagnosed with HIV in this country are not linked to care. We have the responsibility and capacity to do just that."

"This is a great opportunity to not only test people, but to educate them," said Hazel Jones-Parker, DNP, FNP, assistant professor at the University of Maryland School of Nursing and volunteer at Payne Memorial church. While screening local citizens for high blood pressure, Jones-Parker also discussed health issues such as hypertension, smoking, and diabetes.



Young woman gets tested for HIV by a volunteer.

Kelli McCallum, RN, a nurse practitioner student in the School of Nursing, also provided blood pressure screenings at Unity United church. She said she volunteered because "in terms of community, it's important to know they don't always have to come to us. Nurses have to meet people in their element and find out what their needs are. This is why I became a nurse."

Likewise, Micah Bucy, a University of Maryland Francis King Carey School of Law student, provided legal support to visitors who may have nowhere else to turn. "Many of the people here don't have internet access, so not only can I clarify their most basic questions, but I can provide them with contacts that would otherwise be hard to find," said Bucy.

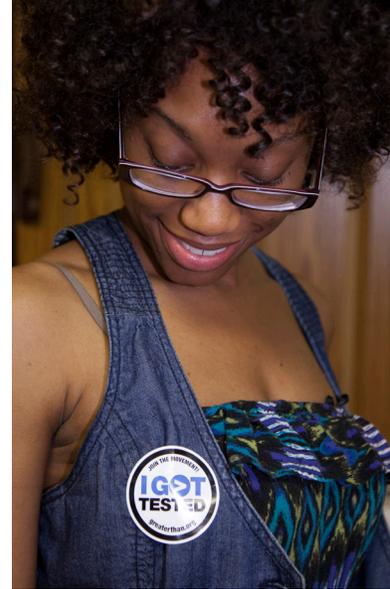
Kelly Flannery, PhD, RN, University of Maryland School of Nursing assistant professor and volunteer, said an event like this shows how the school's services are connected and work well together. Nursing students provided clients with blood pressure screenings and education about healthy lifestyles, while law and social work

students linked citizens to public health community resources and pharmacy students counseled them on their medications. At Unity United church, Reitz said they "encountered" 200 people alone (not everyone needed testing-some wanted linkage to care). The event also included UMB alumni such as Whitney Burton, MSW '09, MPH '11, Linkage to Care coordinator for the STAR TRACK Adolescent HIV Program at the School of Medicine and Rebecca Bowman-Rivas, MSW '99, law and social work service manager at the Carey School of Law. "The University has a lot of resources," said Bowman-Rivas, who gave away part of her lunch to a homeless person at Unity United church. "It's important to be involved in the community we're working with."

While performing HIV testing at Payne Memorial church, Burton tried to make people feel relaxed. "You want people to feel comfortable with their first test," she said, "in the hopes they will get tested later."

The JACQUES Initiative provides testing year-round to communities across the city. Through a program called Preparing the Future (PTF), students from the University's Graduate School and six professional schools have the opportunity to work as a team to offer HIV testing and linkage to care to Baltimore citizens. PTF already has trained more than 450 students and health care providers.

"This event is a reminder that we all have to work together to serve the needs of each person," said McCallum.



Young woman displays "I got tested" sticker.



Man gets tested for HIV by a volunteer.

IHV Chairman Terry Lierman Receives Prestigious Lifetime Award

On September 12, IHV Board Chairman Terry Lierman was honored by the Maryland Democratic Party with the Lifetime Democratic Service Award. Before a crowd of 800, including distinguished guests, Maryland Governor Martin O'Malley, Maryland House of Delegates Speaker Michael Busch, and Maryland Senate President Thomas V. Michael Miller, Lierman was bestowed the Lifetime Award by U.S. House Democratic Whip and close friend, Steny Hoyer, for "his continued and constant service to the State of Maryland and the Maryland Democratic Party."



L to R: The Honorable Steny Hoyer (D-Md.), Terry Lierman, and Chair of the Maryland Democratic Party, Yvette Lewis.

IHV Board Member William Hall Receives Prestigious Vietnamese Honor

In a ceremony in Hanoi this month, IHV Board Member William Hall of University College Dublin, Ireland and Director of the Atlantic Philanthropies (AP), was presented an insignia award by the Vietnam Union of Friendship Organisations (VUFO) for his immense efforts and contributions to the development of the Vietnamese health and education systems as well as to the country's poverty reduction. Dr. Hall's efforts since 2007 with the Ireland Vietnam Blood-Borne Virus Initiative (IVVI), a collaboration with the University College Dublin-a Global Virus Network (GVN) Center of Excellence, has led to nine Vietnamese students completing the program, three of whom are GVN Scholars. When receiving the honor, Dr. Hall said he considers Vietnam his second home and will continue his efforts in building Vietnam's public health and education infrastructures.



Dr. William Hall (left) receives an insignia award in Hanoi, Vietnam.

BOARD OF ADVISORS NEWS

IHV Board Member U.S. Congressman Cummings Visits IHV Faculty, Staff and Patients



L to R: Dr. William Blattner, Terry Lierman, The Honorable Elijah Cummings, Dr. Robert Gallo, Dr. Robert Redfield, and Dr. Joseph Bryant.

During the August U.S. Congressional recess, IHV Board Member and U.S. Congressman Elijah Cummings visited the Institute to receive an update on IHV's basic science, vaccine development, and clinical research and treatment programs—both locally and internationally. Following meetings with faculty and staff, Congressman Cummings joined IHV Board Chair Terry Lierman to meet with IHV's JACQUES Initiative clients and hear first-hand accounts about how the Ryan White funded program has helped them live “well” with HIV.



IHV JACQUES Initiative Executive Director Derek Spencer, MS, CRNP, and IHV Board members, U.S. Congressman Cummings and Terry Lierman, meet with patients of the clinic.



Raj Shah, CEO, CTIS, Inc.

IHV Gains Exciting New Board Member

IHV gained a new Board Member this Fall when Mr. Raj Shah, CEO, CTIS, Inc., graciously accepted the position. Mr. Shah is dedicated to contributing to the improvement of the health industry, specifically committed to finding

individualized health solutions for the chronic disease population, especially within the global “communities in need” afflicted with health disparities. His vision is to provide integration of processes for better collaboration and performance at the point of care in order to supply the safest and most cost-effective patient care. His strategy is to integrate information, technology, process, best practice, and standards through the use of health informatics solutions for providers and physicians that support patient needs for prevention, early disease detection, care management, and research. With experience in the areas of energy, environment, financial engineering, management consulting, technology development, and infrastructure development projects, Mr. Shah has directed over \$1 billion in business through his management roles with Engelhard and Control Data Corporation, both Fortune 100 companies, and now with CTIS, Inc. With over 30 years of experience in the health industry, Mr. Shah was invited to the 2010 G20 Health Summit and published a paper on Global Health and Information and Communication Technology. As a non-profit institute supporter, Mr. Shah has been committed to corporate citizenship by supporting the healthcare needs of the community. Mr. Shah is currently the President of the International Cancer Treatment and Research USA branch (INCTR) and has been a member of governing boards, leadership boards, institutional review and boards of directors for over 25 institutes in support of global health and health disparity.

IHV Awards, Grants, & Publications

Awards



Melville L. Wolfrom Award in Carbohydrate Chemistry—

Lai-Xi Wang, PhD, Professor, Biochemistry and Molecular Biology, and Head of the Laboratory of Bioorganic Chemistry & Glycobiology, Institute of Human Virology, was elected this past June in West Dover, Vermont as Vice

Chair and the Chair for the 2015 and 2017 Carbohydrate Gordon Research Conferences, respectively. Additionally, Dr. Wang will receive the 2014 Melville L. Wolfrom Award in Carbohydrate Chemistry from the American Chemical Society at the 2014 ACS Spring National Meeting in Dallas, Texas, with a concurrent symposium to be held at the ACS National Meeting in honor of the awardee. The award recognizes outstanding contributions to the field of carbohydrate chemistry and excellent service to the ACS Carbohydrate Division.



Lifetime Achievement Award in Biomedical Science—

In September, Dr. Robert Gallo, MD, Professor of Medicine and Microbiology and Immunology, Institute of Human Virology, received a Lifetime Achievement Award in Biomedical Science from Xi'an Jiaotong University. The University also presented

Dr. Gallo with his 31st honorary professorship. Additionally, in September the Moscow Center for HIV/AIDS Prevention and Treatment presented Dr. Gallo the first Lifetime Achievement Award for his "Outstanding Contribution to Global Public Health" during IHV's 15th Annual International Meeting held in Moscow, Russia.

Grants

Robert C. Gallo, MD, Professor and Director, Institute of Human Virology, received third year funding in the amount of \$999,932 from the Henry M. Jackson Foundation (the US Army Medical Research & Material Command for the Advancement of Military Medicine) entitled "Safety and Immunogenicity of FLSC". The Military HIV Research Program (MHRP), in collaboration with the Institute of Human Virology and Profectus Biosciences, will evaluate the safety and immunogenicity of the full length single chain (FLSC) subunit prior to evaluating combinations with either an ALVAC-HIV (V cp1521) Prime, or a new ALVAC construct expressing FLSC.



Carla Alexander, MD, Assistant Professor, Institute of Human Virology, received three years of funding in the amount of \$2,109,889 from Patient Centered Outcomes Research Institute (PCORI). Entitled "CASA: Care and Support Access Study for implementation of a Palliative

Approach with HIV treatment." Care and Support Access (CASA) is a complex multidisciplinary care strategy in which Early Integration of a Palliative Approach (EIPA) is integrated into the delivery of standard HIV care, using an iterative teaching method and on-site mentored training of site-specific care teams that include patient representatives.

Lai-Xi Wang, PhD, Professor, Institute of Human Virology, received a one year subagreement in the amount of \$108,218 from SRI International (prime PI Dr. Denong Wang) entitled " β Cell Responses to Oligomannosyl Antigens of HIV-1". As a subrecipient Dr. Wang will synthesize a series of N-glycans and particularly the high-mannose type N-glycans and clusters for carbohydrate

microarray-based biomarker discovery at SRI and will synthesize gp120 and Man9-enriched gp 120 glycoproteins of HIV-1 in sufficient amounts to support immunological study by the SRI glycomics laboratory.



Fabio Romerio, PhD, Assistant Professor, Institute of Human Virology, received a two year grant in the amount of \$469,626 from the National Institute of Allergy and Infectious Diseases entitled "Cell Surface Marker Combinations to Identify Latently Infected CD4+ Cells In Vivo". The long term goal of this project is

to identify cell surface markers differentially expressed on latently infected CD4+ T cells generated with an in vitro culture system and to define a panel of cell surface markers to identify latently infected CD4+ T cells in peripheral blood and lymph nodes of HIV-1 infected subjects under suppressive ART.

Discovery is published biannually.

Complimentary copies are available upon request.

Questions/Comments?

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Publications

"Synthetic glycopeptides reveal the glycan specificity of HIV-neutralizing antibodies," written by Lai-Xi Wang, PhD, Professor and Head of the Laboratory of Bioorganic Chemistry & Glycobiology, Institute of Human Virology, was published June 30 online in the journal, Nature Chemical Biology (DOI: 10.1038/nchembio.1288). Dr. Wang was also a co-author of a related study, "Structural basis for diverse N-glycan recognition by HIV-1-neutralizing V1-V2-directed antibody PG16", which was published May 26 online in the journal, Nature Structural & Molecular Biology (DOI: 10.1038/nsmb.2600).



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The Institute of Human Virology is a center of the University of Maryland School of Medicine and is affiliated with the University of Maryland Medical Center.

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