Monto Ho, M.D., In Memoriam

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Monto Ho, M.D., In Memoriam
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Monto Ho, a leader in the field of infectious diseases during the past 50 years and world-renowned expert in interferon and human herpesvirus infections of immunocompromised hosts, died 16 December 2013, after complications from a fall.

Monto had the special ability to adopt the best qualities of Chinese and Western cultures to his everyday life and profession. Born in Yiyang, Hunan, China, in 1927, he moved with his family in 1937 to Vienna, Austria, where his father Feng-Shan Ho had been appointed to the Nationalist Chinese consulate. During 1938–1940, as the Chinese Consul-General in Vienna, his father issued, against Chinese governmental orders, more than a thousand visas for Shanghai to Jews, thereby saving them from the Holocaust. For this extraordinary deed, he was awarded posthumously the “Righteous Among the Nations” award of Yad Vashem in 2001. In honor of his father’s illustrious life and career, Dr Ho recently translated his father’s biography into English [1].

While Monto was a sophomore at Tsing Hua University in Beijing in 1947, his father was appointed Chinese Ambassador to Egypt. Monto took the opportunity to transfer to Harvard College, where he was accepted as a junior. After graduating with high honors, Monto entered Harvard Medical School in 1950, where he received his MD in 1954. Following an internship and residency on the Harvard Medical Service at the Boston City Hospital, Dr Ho became a research fellow in infectious diseases under Edward H. Kass and Maxwell Finland, legendary leaders in clinical infectious diseases and founders of the American Society for Infectious Diseases. Monto then studied for 2 years in the Harvard laboratory of John F. Enders, Nobel Laureate, where he specialized in virology. It was in Enders’s laboratory that Dr Ho was introduced to the newly discovered antiviral protein interferon, which was to be central to his early career in research.

In 1959 Monto accepted dual appointments at the University of Pittsburgh as assistant professor, Department of Epidemiology, at the Graduate School of Public Health offered by Dr Enders’s close colleague, Dr William McDowell Hammon, a world leader in poliovirus and arbovirus research, and in the Department of Medicine in the School of Medicine. In contrast to his peripatetic youth, Dr Ho remained in Pittsburgh for his entire career. After the retirement of Dr Hammon, Monto became chairman of what is now the Department of Infectious Diseases and Microbiology, one of only 6 departments focused solely on infectious diseases in schools of public health. Dr Ho’s dedication to his work, combined with skill at interpersonal relationships, led to him being appointed Chief of the Division of Infectious Diseases in the Department of Medicine and Director of Clinical Microbiology in the Department of Pathology in 1972.

Dr Ho was among the earliest investigators of interferon. He pioneered investigation of the mechanism of action of interferon, the inducers of interferon including endotoxins, and the mechanism of its induction [2, 3]. He and his colleagues conducted the earliest clinical trials of type 1 interferons in viral diseases, which delineated its antiviral effects as well as its limitations. The foremost among these was a trial to prevent herpes labialis after operation for trigeminal neuralgia [4]. For more than 20 years, Dr Ho and his colleagues studied the serious problem of herpesvirus infection after transplant. The initial challenge was cytomegalovirus (CMV), and then their studies extended to Epstein-Barr virus (EBV) and herpes simplex and varicella zoster viruses. CMV can cause life endangering pneumonias, and EBV can cause life-threatening posttransplant lymphoproliferative disorders, especially in children. A hallmark study led by Dr Ho showed that primary CMV infections were transmitted by the transplanted organ [5]. Dr Ho was one of the first to point out that it is possible to diagnose the risk of primary infections before transplant by determining the CMV serology of the organ donor and organ recipient, which has become a standard of care in these patients. Following this, Monto was the key force in establishing the Pittsburgh sites of the Multicenter AIDS Cohort Study in 1983, an AIDS Clinical Trials Unit in 1986, and the Pennsylvania AIDS Educational and Training Center in 1988, which are still ongoing and highly productive.

After retirement in 1997, Dr Ho did not leave his profession. Indeed, as a member of Academia Sinica, he was invited to the National Health Research Institutes (NHRI) in Taiwan for 5 years. There he initiated a national surveillance of antibiotic resistance and advocated measures to reduce antibiotic resistance in humans and food animals [6]. This work led to a 43% reduction in antibiotic consumption, and the reduction of some types of resistance. He was awarded a
“Medal of Public Health, First Class” by the Taiwan Department of Health, and an “Excellence in Research” awarded by the NHRI.

Dr Ho used research and clinical responsibilities to train a cadre of students and fellows in the Graduate School of Public Health and in the Departments of Medicine and Pathology in the Pitt Medical School as well as in Taiwan. He and his colleagues and students published more than 280 scientific papers and 4 books, including 2 editions of what was for many years the major resource on CMV [7]. In 2005, Dr Ho published a remembrance of his extraordinary life [8].

Monto shared with his esteemed mentors Kass, Finland, and Enders the exceptional human traits of intellectual excellence and refined gentility of true scholars. Most of all, Monto knew that the essence of his unique, 3-way academic linkage in the schools of medicine and public health was that he could visualize and address the whole field of his profession—from disease prevention, to disease diagnosis, and finally to treating patients’ infectious diseases in the clinic.

Monto truly embodied the Confucius virtue of jen, wherein he practiced “5 constant virtues” with all people: courtesy, generosity, honesty, persistence, and kindness. It is quite fitting that the last act for his beloved profession was his most generous. In 2006, Monto and his wife and dear partner in life, Carol, endowed the Monto and Carol Ho Chair in Infectious Diseases and Microbiology at the University of Pittsburgh.

Monto and Carol, who survives her husband, have 2 children, Bettie Carlson and John Ho, and 3 grandchildren, Caroline, Margaret, and Gregory.

It is only after a friend has left us that we can measure his greatness and fully appreciate him. We cherish Monto’s memory as a devotion to family, friends, and country, as well as important scientific discoveries that strengthened the foundations of the field of infectious diseases.

Notes

Acknowledgments. We thank Victor Yu for encouraging this remembrance. Potential conflicts of interest. Both authors: No reported conflicts. Both authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

References


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Pittsburgh's Medical Community is Changing the World
Pittsburgh Magazine
April 17, 2014

Pittsburgh has been a center for medical research for decades. As the region’s university and hospital communities continue to grow and collaborate, the work being done here is changing — and saving — lives around the world.

Finding a Vaccine for Dengue
The key to a successful vaccine against dengue — a mosquito-spread virus that causes fever and vascular abnormalities and can be deadly — may lie in the careful study of blood. Ernesto Marques, Ph.D., M.D., of UPMC’s Center for Vaccine Research, is looking closely for proteins and antibodies that may unlock the possibility of immunization.

He’s collaborating with Swiftwater, Pa.-based Sanofi Pasteur to develop a test that can better determine the efficacy of a vaccine against dengue. The test that now exists is labor-intensive; in the years following a vaccination, close to 40,000 participants were followed, actively questioned and — if they reported any dengue-like symptoms — required to undergo a series of tests.

The new test streamlines that process, simply testing volunteers at regular intervals. The process can detect if people are infected with dengue despite not feeling sick (a time when they still can transmit the virus). The trial enrollments now are closed, and though the results haven’t yet been released, Dr. Marques says that they are initially showing promise compared to past studies.

Through the university, he also partners with Hemobras, which purifies proteins from plasma received from 80 percent of the blood banks in his native Brazil; he tests the immunoglobulins in the samples for immunity. Prior to that collaboration, blood banks were throwing away plasma because they lacked equipment to purify the proteins. With many people in this population having suffered and recovered from dengue, Dr. Marques asked that Hemobras ship antibodies to him so he could study the immunoglobulins to learn what properties are protective against dengue.

He projects that by using these antibodies, a serum could be made that would help high-risk patients — such as those with compromised immune systems or who have cardiac disease or cancer — survive a dengue infection.
Tony Silvestre, PhD, Professor of IDM, has been recognized in the new book *Legendary Locals of Pittsburgh* (by Joann Cantrell, Arcadia Publishing 2014).

Dr. Anthony (Tony) Silvestre is co-investigator for the Pitt Men’s Study, a confidential research study funded by the National Institutes of Health that characterizes the natural history of Acquired Immunodeficiency Syndrome in gay and bisexual men. Silvestre is also a Professor and director of the Pennsylvania Prevention Project, studying HIV prevention knowledge, attitudes, and access to service for people at risk of HIV infection. The Pitt Men’s Study has been ongoing in Pittsburgh since 1984, with Dr. Silvestre on board since its conception. He recalls the devastation during the early years, a time when tens of thousands of young men died while experiencing stigma, shame, and discrimination. Silvestre has lived with the faces of AIDS patients for more than 30 years and, to this day, continues to find ways to keep centered while working for the cause. (Courtesy of Tony Silvestre)
Low Cholesterol in Immune Cells Tied to Slow Progression of HIV
Science Daily
April 29, 2014

People infected with HIV whose immune cells have low cholesterol levels experience much slower disease progression, even without medication, according to University of Pittsburgh Graduate School of Public Health research that could lead to new strategies to control infection.

The Pitt Public Health researchers found that low cholesterol in certain cells, which is likely an inherited trait, affects the ability of the body to transmit the virus to other cells. The discovery, funded by the National Institutes of Health (NIH), is featured in today’s issue of mBio, the journal of the American Society for Microbiology.

When HIV enters the body, it is typically picked up by immune system cells called dendritic cells, which recognize foreign agents and transport the virus to lymph nodes where it is passed to other immune system cells, including T cells. HIV then uses T cells as its main site of replication. It is through this mechanism that levels of HIV increase and overwhelm the immune system, leading to AIDS. Once a person develops AIDS, the body can no longer fight infections and cancers. Prior to effective drug therapy, the person died within one to two years after the AIDS diagnosis.

“We’ve known for two decades that some people don’t have the dramatic loss in their T cells and progression to AIDS that you’d expect without drug therapy,” said lead author Giovanna Rappocciolo, Ph.D., an assistant professor at Pitt Public Health. “Instead the disease is much slower to progress, and we believe low cholesterol in dendritic cells may be a reason.”

The discovery was made possible by using 30 years of data and biologic specimens collected through the Pitt Men’s Study, a confidential research study of the natural history of HIV/AIDS, part of the national NIH-funded Multicenter AIDS Cohort Study (MACS).

“We couldn’t have made this discovery without the MACS. Results like ours are the real pay-off of the past three decades of meticulous data and specimen collection,” said senior author Charles Rinaldo, Ph.D., chairman of Pitt Public Health’s Department of Infectious Diseases and Microbiology, and professor of pathology. “It is thanks to our dedicated volunteer participants that we are making such important advances in understanding HIV, and applying it to preventing and treating AIDS.”

Medications called combination antiretroviral therapy (ART) disrupt the viral replication process and can delay the onset of AIDS by decades.

However, even without taking ART, a small percentage of people infected with HIV do not have the persistent loss of T cells and increase in levels of HIV after initial infection. They can sometimes go many years, even more than a decade, without the virus seriously compromising the immune system or leading to AIDS.

Through the Pitt Men’s Study/MACS, eight such “nonprogressors” were assessed twice a year for an average of 11 years and compared to eight typically progressing HIV-positive counterparts.

Dr. Rappocciolo and her colleagues found that in nonprogressors, the dendritic cells were not transferring the virus to T cells at detectible levels. When taking a closer look at these dendritic cells, the researchers discovered that the cells had low levels of cholesterol, even though the nonprogressors had regular levels of cholesterol in their blood. A similar finding was shown for B lymphocytes, which also pass HIV to T cells, leading to high rates of HIV replication.
Cholesterol is an essential component of the outer membranes of cells. It is required for HIV to replicate efficiently in different types of cells. None of the study participants were taking statins, which are cholesterol-lowering medications that some people take to prevent vascular problems when cholesterol in their blood is too high.

When HIV was directly mixed with the nonprogressors’ T cells in the laboratory, those T cells became infected with the virus at the same rate as the T cells of the regularly progressing, HIV-positive participants. Indeed, T cells from the nonprogressors had normal levels of cholesterol.

“This means that the disruption is unlikely to be due to a problem with the T cells, further supporting our conclusion that the slow progression is linked to low cholesterol in the dendritic cells and B cells,” said Dr. Rappocciolo.

“What is most intriguing is that dendritic cells in the nonprogressors had this protective trait years before they became infected with HIV,” Dr. Rinaldo said. “This strongly suggests that the inability of their dendritic cells and B cells to pass HIV to their T cells is a protective trait genetically inherited by a small percentage of people. Understanding how this works could be an important clue in developing new approaches to prevent progression of HIV infection.”

Additional researchers on this study are Mariel Jais, B.S., Paolo Piazza, Ph.D., Todd A. Reinhart, Sc.D., Stella J. Berendam, B.S., Laura Garcia-Exposito, Ph.D., and Phalguni Gupta, Ph.D., all of Pitt Public Health.

This research was supported by NIH grants U01-AI35041 and R37-AI41870.

Ebola poses less of a risk than more contagious infections, Pittsburgh experts say

Health preparedness and procedures in the United States should prevent a domestic outbreak of Ebola, whose death toll in western Africa now has topped 1,000.

But a University of Pittsburgh virologist warns that the nation should focus on its vulnerability to other foreign viruses that are less deadly but far more contagious than Ebola, with a potential impact similar to seasonal influenza.

Some already have arrived. Other viruses well established in Africa, the Middle East or Asia could show up on the next boat or plane and spread by airborne disease particles, mosquito bites or contact with humans or livestock.

Yes, the African Ebola outbreak should generate international concern with a death rate as high as 90 percent of all cases.

“But I would also issue a word of caution that the public should have some perspective on this,” said Amy L. Hartman, an assistant professor at Pitt’s Graduate School of Public Health. “Even though this is the largest Ebola outbreak ever, there are other infectious diseases that cause millions of deaths per year — influenza, tuberculosis, dengue, malaria — but do not have the urban legend status of Ebola.”

But that level of concern and fear has led to development of a potential arsenal of antiviral weapons, including the drug favipiravir.
Ms. Hartman, who developed animal models to test the drug, said it’s undergoing final-stage human clinical trials before the U.S. Food and Drug Administration can approve it for human use. So far, the drug has been highly effective against the flu and better than current medications such as Tamiflu. But there’s also growing evidence of effectiveness against Ebola and many other viral infections.

“Favipiravir could have an impact on other viruses including West Nile,” Dr. Hartman said.

While there are no FDA-approved vaccines for Ebola, the National Institute of Allergy and Infectious Diseases is working to develop one. Efforts are underway to expedite a first-phase safety trial on an Ebola vaccine this fall, while supporting development of an Ebola/Marburg virus vaccine by Crucell, and Ebola vaccine by Profectus Bioscience. The National Institutes of Health and the Thomas Jefferson University in Philadelphia are collaborating on an Ebola vaccine based on an already established rabies vaccine, the CDC reports.

Zmapp, an experimental Ebola treatment, has yet to be tested for safety but is available for compassionate use in Liberia in an attempt to bring the epidemic under control. The CDC said it’s too early to tell if the drug is effective. The FDA issued a warning last week about products being sold online that claim to prevent or treat the Ebola virus, ever since the outbreak in Africa occurred.

What some believe to be exaggerated fears of an Ebola outbreak in the United States are bolstered by the World Health Organization’s description of it as “one of the world’s most virulent diseases.” It also can be spread by direct contact with an infected person. The viral hemorrhagic disease causes fever, headache, joint and muscle aches, weakness, diarrhea, vomiting, stomach pain, lack of appetite and abnormal bleeding, the CDC says. Most common symptoms appear eight to 10 days after exposure.

But control is possible because a person must have symptoms to be contagious. The United States also has a strict protocol in place to monitor sick patients en route to the United States and isolate those with the disease in biomedical containment centers to prevent the virus from spreading.

“Whenver airline officials determine that a sick patient is aboard a plane destined for the United States, the CDC is notified to investigate whether the ill travelers might require isolation and assure the plane is disinfected. Such procedures were initiated during the 2003 outbreak of severe acute respiratory syndrome, or
SARS, in Asia that eventually infected 8,273 people, including 27 cases in the United States, but none of whom was among the 775 deaths.

Annual health problems of influenza reflect the potential impact Americans might face if chikungunya, Rift Valley fever virus and Middle East Respiratory Syndrome (MERS), among many others, arrive in coming months or years. The CDC estimates that seasonal flu infects 5 percent to 20 percent of the U.S. population (as high as 64 million people) with more than 200,000 people hospitalized for flu-related complications annually.

“Over a period of 30 years, between 1976 and 2006, estimates of [annual] flu-associated deaths in the United States range from a low of about 3,000 to a high of about 49,000 people,” the CDC says.

As with the flu, some foreign viruses also can infect and kill livestock, birds and other animals, expanding the economic toll and making control even more difficult.

For now, chikungunya is well established in Caribbean and northern South American nations along with four locally transmitted cases of the virus in Florida. There are about 600 more cases in the United States involving travelers to this country. The CDC reports 14 cases in Pennsylvania, 16 in Ohio and 13 in Maryland, all involving travelers from elsewhere.

The Pan American Health Organization reported Aug. 1 that 31 countries and territories in the Americas have had locally transmitted cases of chikungunya [CHIK-en-GUN-ye]. There have been a total of 508,122 suspected cases reported and more than 5,100 confirmed as being locally transmitted and a total of 32 deaths from the virus in the Americas. Because chikungunya is new to the Western Hemisphere, most people are not immune. This means it can be more easily spread with the help of other types of mosquitoes.

The most common symptoms of chikungunya virus infection are fever and joint pain, the CDC states, along with headache, muscle pain, joint swelling or rash. The joint pain can continue indefinitely and even become chronic.

“With the recent outbreaks in the Caribbean and the Pacific, the number of chikungunya cases among travelers visiting or returning to the United States from affected areas will continue to increase,” the CDC states. “These imported cases could result in local spread of the virus in the continental United States.” The mosquitoes that transmit chikungunya are found throughout much of the Americas, but limited in this country mostly to Southern states.

Dr. Hartman has been working on the Rift Valley fever in a biocontainment unit at Pitt where she wears protective clothing resembling a moon suit to prevent contracting the virus and potentially spreading the disease.

The Rift Valley fever was first discovered in Kenya more than a century ago and spread by mosquitoes mostly through livestock. It continues to be of concern throughout Africa and into the Middle East, but the CDC says the virus, should it arrive in the United States, could infect livestock and have a major economic impact on agriculture.

MERS has been concentrated in Saudi Arabia with two travelers to the United States confirmed to have the severe viral respiratory infection that causes death in 30 percent of the patients. Symptoms include fever, cough and shortness of breath. The virus is spread through close contact with no evidence “of it spreading in community settings,” the CDC states.

The West Nile Virus provides an example of the impact when a virus arrives from overseas. First discovered in the United States in the late 1990s, it peaked in 2002 and 2003 with the CDC documenting 13,088 total cases.
between 1999 and 2012 and 1,549 deaths. The CDC and health agencies continue tracking infections every summer.

But there’s good news on the prevention and treatment front. Ms. Hartman, who holds a Ph.D. in virology, has been working with MediVector Inc. on development and testing of the drug favipiravir as a flu treatment that also has potential to treat such viruses as Ebola, Marburg, West Nile, Rift Valley, yellow fever, dengue and even hepatitis C. Her research included developing animal models on which to test the drug.

Favipiravir “is a novel anti-viral compound that works against different viral enzyme targets than either of the approved antiviral agents used to treat people who have become ill with influenza,” the MediVector website states, adding that scientists around the world “have tested favipiravir and found that it is effective against a wide variety of RNA viruses, in infected cells, infected animals, and both.”

In the meantime, other researchers are working quickly to develop other methods to prevent or treat such infections with a focus on Ebola.

Ronald N. Harty, PhD, associate professor of microbiology at the University of Pennsylvania School of Veterinary Medicine, is leading research to block certain RNA viruses from successfully completing replication and “budding,” which is the viral process of leaving the cell by expanding through the cell membrane much the way a bubble is created from a wand.

“We’re focused primarily on Ebola but also related RNA viruses,” said Dr. Harty. He is co-founder of the company, Intervir, which will use the research to develop antiviral medications based on research that targets proteins and protein strands necessary for virus replication. “I’m very excited with good, promising data and tested inhibitors against live viruses in the lab. We’ve tested it against live Ebola and Marburg viruses that actually block budding.”

Ayan Chakrabarti, is a 2009 IDM MS graduate from Dr. Phalguni Gupta’s lab under Dr. Yue Chen’s mentorship. His thesis was on the detection of HIV-1 RNA/DNA and CD4 MRNA in feces and urine samples of the Multicenter AIDS Cohort Study (MACS) volunteers. During his MS training, Ayan feels that he received tremendous guidance and support from his mentors Drs. Gupta and Chen along with his committee members Drs. Charles Rinaldo and Sharon Riddler. In addition, student life in IDM-GSPH prepared him academically and as a person to pursue his career in public health research at the Center for Disease Control and Prevention (CDC). Ayan is presently working as a Biologist in the Viral Special Pathogens Branch’s (VSPB). VSPB charter is the study of highly infectious viruses, many of which cause hemorrhagic manifestations in humans. His daily work involves the investigation of viruses of Ebolavirus, Marburgvirus, Lassa fever virus, Rift Valley fever virus, Crimean-Congo hemorrhagic fever virus, other Arenavirus and Hantavirus species, and additional recently identified and emerging viral species. Almost all of these viruses are classified as Biosafety Level 4 (BSL-4) pathogens and as such must be handled in special facilities designed to contain them safely. VSPB operates one of the world’s few BSL-4 laboratories. In addition, VSPB provides technical and research/diagnostic materials to many international laboratories and collaborators. VSPB staff members are trained to respond to global disease outbreaks and provide assistance for disease detection and control measures.
Ayan has coauthored 6 peer reviewed publications. He also received the Recipient of Emerging Infectious Diseases (EID) National fellowship from the American Public Health Laboratories (APHL) in 2009. He was also a winner on the Excellence in Laboratory Research Award in 2011 from the National Center for Emerging & Zoonotic Infectious Diseases, CDC for successfully developing systems that generate and use genetically engineered Junin, Lassa, Lujo, Rift Valley fever, and Crimean-Congo hemorrhagic fever Viruses.

Ayan is married to Payel, a former UPCI staff member and currently a Lead Research Specialist in Emory University in Atlanta. Ayan and Patel have a gorgeous 2½ year old boy, Akash. The Chakrabarti family loves to travel around the world and spends good social time with family and friends in Atlanta. They are still active participants of the University of Pittsburgh Alumni Association.

**IDM alumni attended the National Association of County and City Health Officials (NACCHO) Preparedness Summit in early April.**

Left-right: Olivia Houck, IDM MPH ’13 grad; Suzy Redington (formerly Hecker), IDM MPH ’08 grad; Jamie Sokol, BCHS MPH ’07 grad; Maura Barrett, IDM MPH ’13 grad.

Sara Miller, 2010 IDM MPH graduate, recently graduated from Loyola Medical School (pictured with her husband).

On August 14, 2014 Robert J. Melder, ScD, 1985 IDM Alumnus, was honored by induction into the Bakken Society. The Bakken Society is an honorary society that recognizes employees of Medtronic, Inc. for their outstanding contributions to Medtronic’s technical or scientific progress. Membership in the Bakken Society is Medtronic’s highest honor for technical contributions. The Society is named after Earl E. Bakken, Founder and Director Emeritus of Medtronic and charter member of the Society. Medtronic, Inc., headquartered in Minneapolis, Minnesota, USA, is the global leader in medical technology, redefining how technology is used in the management of chronic disease. Medtronic offers unique insight into a range of therapeutic areas, including heart disease, diabetes, neurological disorders, spinal conditions and vascular diseases. This breadth of offerings, combined with their years of experience, allows them to deliver therapies that are transforming the treatment of chronic disease and changing the lives of more than 7 million patients worldwide each year.
On Saturday, March 22, 2014, IDM hosted its first Career Day, and it was a great success! The event was developed in response to the student demand for more career resources specific to IDM students.

Featuring presentations from an NIH workforce specialist, Pitt Public Health Career Services, and IDM alumni, the event strived to help students identify their career options within government, industry, and academia. Students enjoyed getting an inside look into how the NIH branches select candidates for a variety of government positions and talking with IDM alumni about their career trajectories after graduating. As one student said, “All of the alumni and presenters had a wealth of knowledge and insight to help us succeed in finding a job, and the variety of alumni was useful to get an idea of what is out there.”

IDM hopes that alumni participation will grow in the coming years, so if you’re interested in participating in such an event, please contact Meredith Mavero at idm@pitt.edu.

William Pewen, PhD, MPH
Associate Dean of Research, College of Health Professions
Director, Graduate Program in Public Health
Assistant Professor, Public Health and Family Medicine Marshall University

Dr. Pewen has had a long and distinguished career since he graduated from IDM in 2003 with his PhD. He was the Senior Health Policy Advisor for Senator Olympia Snowe for four years where he worked on major enacted legislation such as the Patient Protection and Affordable Care Act, American Recovery and Reinvestment Act of 2009, and Genetic Information Non Discrimination Act among others. Currently, Dr. Pewen has three academic appointments at Marshall University in Huntington, West Virginia. He’s the Associate Dean of Research in the College of Health Professions, the Director of Graduate Program in Public Health, and Assistant Professor of Public Health and Family Medicine.
Monica Jo Tomaszewski, PhD
Research Scientist
ThermoFisher Scientific

Dr. Tomaszewski has had nearly 6 years of research excellence in both industry and academe. During her PhD program at IDM, she traveled to Germany to train for BAC construction and virus production in the lab of Dr. Wolfgang Hammerschmidt. After graduating, she assumed a post-doctoral position with our very own Dr. Rinaldo and Dr. Jenkins for one year. After that, she went to ThermoFisher Scientific to be their R&D Scientist in High Content Analysis. In 2011, she pursued further higher education to complete an MS in Engineering Management. She has been at ThermoFisher for 4 years now, and currently supports biology and engineering efforts and assay development for High Content Analysis.

Robin Monteverde Ceschin, MS
Account Representative, ThermoFisher Scientific

Robin has had great experience in the lab as well as in sales. As she was completing her degree, she worked full time as Dr. Joseph Martens Lab Manager in Biological Sciences. Upon graduation, she started working for ThermoFisher Scientific as a Sales Account Representative where she manages 500+ accounts across the United States.

Anna Mamo, MS
Business Development Analyst, Idea Foundry

Anna has had an interesting career journey since she graduated from IDM in May 2010. She has had extensive experience in the lab as well as on the business side of science. She is currently working at the Idea Foundry as a Business Development Analyst while pursuing her MBA at Pitt’s Katz Graduate School of Business. At Idea Foundry, she manages a team of analysts to conduct market research and commercialization analysis to assess the viability of early-stage biotechnologies. Before Idea Foundry, Anna worked as an Immunology Research Technician within Pitt’s School of Medicine.
Mary Sue Miranda, MS HYG
Acting Director, Chemical, Biological, Radiological, Nuclear & Explosives (CBRNE) Directorate/Chief, Laboratory Division, Pentagon Force Protection Agency (PFPA), Department of Defense
msbart18@gmail.com

Since Mary Sue’s graduation from IDM in 1980, she has been employed in hospital and pharmaceutical laboratories, and is currently working within a force protection agency within the DOD. As Acting Director, Mary Sue oversees a Directorate within a force protection agency within the Dept. of Defense. The Chemical, Biological, Radiological, Nuclear and Explosives (CBRNE) Directorate contains a HAZMAT response team, a biological laboratory that tests for biothreat agents, a mail screening program, a bomb squad and a division that provides protective sensor monitoring for the Pentagon facility and its 23,000 occupants. PFPA’s mission is to protect those that protect our nation and the CBRNE Directorate focuses on CBRNE threats and weapons of mass destruction. They perform active and passive monitoring and surveillance for threats on the Pentagon reservation, offering a tiered approach to detection of a threat agent. Their HAZMAT team are first responders that provide field analysis for threat agents. They provide sample collection for the laboratory which performs molecular and immunological assays for biological threat agents from environmental samples. The laboratory participates in a strong quality assurance and interagency proficiency testing program to ensure our results are defensible. The laboratory is ISO 17025 accredited by the American Association of Laboratory Accreditation. Within the Laboratory Division, they closely interact with the Department of Homeland Security and its national BioWatch program. Within this partnership, strong focus is placed on notification protocols with local, state and federal stakeholders in preparation for responding to a biological threat agent release.

Christina Ascension Farmartino, MPH, CPH
Executive Director, The Open Door, Inc.
cfarmartino@opendoorhousing.org

Christina has been involved in public health practice since 2009, when she conducted independent research on non-governmental organizations serving individuals living with HIV in Fortaleza, Ceará, Brazil. Christina specializes in infectious disease research and prevention, and is currently the Executive Director of The Open Door, Inc., a local nonprofit that is dedicated to serving chronically homeless, high-risk individuals living with HIV. Christina is responsible for administrative oversight of The Open Door, Inc.’s housing program and other related services. Her responsibilities include, financial oversight and analysis, grant writing, strategic planning, fundraising, staff supervision, and program evaluation and implementation. Christina is active with other local community organizations including as Prevention Point Pittsburgh, a harm reduction needle exchange program, and most recently, The Perry Hilltop Citizens Council.
Tran Doan, MPH  
Community Outreach Associate  
Hôpital Albert Schweitzer Haiti (HAS)

Tran Doan is the Community Outreach Associate at Hôpital Albert Schweitzer Haiti (HAS), responsible for HAS outreach to community and school groups, and for assisting with speaker placement and marketing communications in support of HAS development efforts.

Tran comes to HAS from the University of Pittsburgh Graduate School of Public Health, where she recently earned a Master of Public Health degree with a concentration in management, intervention, and community practice. While at Pitt, Tran was active in student government, with responsibility for the planning and management of educational and community events for the university’s 10,000 graduate and professional students.

In 2012, Tran served as the Pedro Zamora Public Policy Fellow at AIDS United, in Washington, DC, and subsequently helped develop training materials, including online presentations and training toolkits, for this non-profit organization.

Tran is a 2010 graduate of the University of Richmond in Richmond, Virginia, where she earned a Bachelor of Science degree in chemistry. While at the University of Richmond, she won a $10,000 Davis Projects for Peace grant to develop and lead a human rights project in Thailand.

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Baby News . . .

Nabanita Biswas, PhD, 2011 IDM Graduate, and her husband, Anirban, welcomed their baby daughter, Aunwita Taya Jana on May 29, 2014.

*Congratulations to the Biswas & Jana family.*
Award Categories and 2014 Winners

**IDM Departmental Awards**

**Master’s Category:**

**Ms. Fortuna Arumemi, MS Program**
“Characterization of a Novel Host Cellular Factor in HIV-1 Neuropathogenesis”
Advisor: Dr. Velpandi Ayyavoo

**Ms. Melissa Morris, MPH Program**
“Adapting a Self-Assessment Tool to Identify Public Health Workforce Training Needs: A Competency Based Approach”
Advisor: Dr. Tony Silvestre

**Doctoral Category:**

**Ms. Diana Campbell, PhD Program**
“Differentiation of Human Herpesvirus-8 Infected, In Vitro Derived B Lymphocytes and their Role in Endothelial Cell Infection”
Advisor: Dr. Charles Rinaldo

**School-wide Awards**

**Masters First Prize:**

**Ms. Glory Ojiere, MPH Program**
“Using RealOpt® to Determine Staffing Capabilities during an Infectious Disease Emergency”
Advisor: Dr. Anil Ojha

**Delta Omega Award:**
For the best poster, as judged by the Omicron chapter of Delta Omega, with the opportunity to compete nationally for a chance to present the poster at the APHA annual meeting.

**Ms. Yanille Scott, PhD Program**
“The Potential of Broadly Neutralizing Monoclonal Antibodies to Function as Topical Microbicides”
Advisor: Dr. Charlene Dezzutti
Jana Jacobs, Awarded PhD, April 9, 2014
Dissertation Title: “Characterization of the Roles of Two Regulators of Virus Infection: Gp78 and BPIFB3”
Advisor: Dr. Carolyn Coyne

Adrienne Long, Awarded MPH, April 10, 2014
Thesis Title: “HIV/AIDS Prevention Knowledge and Behaviors of Rural Women Who are Recipients of a Community Health Worker HIV/AIDS Program in Nampula Province, Mozambique”
Advisor: Dr. Linda Frank

Jessi Bond, Awarded MPH, April 14, 2014
Thesis Title: “A Three Year Review of Catheter-Associated Urinary Tract Infections Reported to the National Healthcare Safety Network at a Tertiary Care Hospital”
Advisor: Dr. Jeremy Martinson

Helen McGuirk, Awarded MPH, April 14, 2014
Thesis Title: “An Evaluation of Current Diagnostic Methods for Tuberculosis in Resource-Poor Areas and a Proposal for a More Sensitive Test”
Advisor: Dr. Phalguni Gupta
Natalie Suder, Awarded MPH, April 15, 2014
Thesis Title: “Role of Viral Coinfections in Non-Hodgkin’s Lymphoma Development in HIV-1 Positive MACS Seroconverters”
Advisor: Dr. Charles Rinaldo

Nicole Phillips, Awarded MS, April 17, 2014
Thesis Title: “Comprehensive Analysis of HEK293 Cells Reveals a Lec-Like Phenotype”
Advisor: Dr. Todd Reinhart

Aiymkul Ashimkhanova, Awarded MS, April 21, 2014
Thesis Title: “The Role of Humoral Immune Response in Hepatitis C Infection”
Advisor: Dr. Yue Chen

Julianne Baron, Awarded PhD, May 30, 2014
Dissertation Title: “Reducing the Public Health Impact of Infections Caused by Waterborne Pathogens”
Advisor: Dr. Victor Yu

Dr. Victor Yu, Julianne Baron and Dr. Janet Stout (PhD, 1992 IDM Alumnus)
Suha Abdelbaqi, Awarded MS, June 13, 2014
Thesis Title: “Novel Engineered Cationic Antimicrobial Peptides have a Broad-Spectrum Activity Against: Francisella Tularensis, Burkholderia Pseudomallei and Yersinia Pestis”
Advisor: Dr. Doug Reed

Lisa Mathews, Awarded MS, June 17, 2014
Thesis Title: “Pro-Inflammatory Cytokine-Induced Modulation of IL-33 and its Receptor During Pediatric Allograft Rejection”
Advisor: Dr. Heth Turnquist

Sreya Tarafdar, Awarded PhD, June 19, 2014
Dissertation Title: “Interactions of the HIV-1 Nef Virulence Factor with Host Cell Tyrosine Kinases of the SRC and TEC Families”
Advisor: Dr. Thomas Smithgall

Mary Hasek, Awarded MS, June 25, 2014
Thesis Title: “Characterization of Cholesterol Targeting Antimicrobial Peptides and Assessment of Their Antiviral Activity in vitro”
Advisor: Dr. Ron Montelaro
Nicholas Giacobbi, Awarded MS, June 26, 2014  
Thesis Title: “Polyomavirus T Antigens Activate an Antiviral State”  
Advisor: Dr. James Pipas

Jennifer Stock, Awarded MS, July 14, 2014  
Thesis Title: “Factors Associated with the Control of SIVsab Infection in Baboons (PAPIO PAPIO)”  
Advisor: Dr. Ivona Pandrea

Andrea Dobbs, Awarded MS, July 17, 2014  
Thesis Title: “Towards Understanding Plasmablast Development in Dengue Virus Infection”  
Advisor: Dr. Simon Barratt-Boyes
Jaideep Karamchandani, Awarded MS, August 4, 2014
Thesis Title: “The Evaluation of Human Herpesvirus 8 Infection and Benign Prostatic Hyperplasia in Tobago”
Advisor: Dr. Frank Jenkins

Jessica Battaglia, Awarded MS, August 6, 2014
Thesis Title: “Comparison of Viral Titers and Cytokine Profiles Between Males and Females at Risk of Kaposi’s Sarcoma Development”
Advisor: Dr. Frank Jenkins

Rebecca Marino, Awarded PhD, August 15, 2014
Dissertation Title: “Structural Genetic Variation and Dyslipidemia Among Men Enrolled in the Multicenter AIDS Cohort Study”
Advisor: Dr. Jeremy Martinson
Todd Reinhart, ScD is leading a group of Pitt faculty engaged in AIDS research who received a 1.1 million dollar T32 training grant from the NIH for five years. This grant is now in its tenth year (the fifth year of a five year renewal). This year the grant will train two new predoctoral researchers, and three have been reappointed for an additional year in the study of HIV/AIDS to begin August 1, 2014. The PART Program is based on concepts of interdisciplinary courses and collaborative basic research that provide the foundation for understanding HIV/AIDS and controlling the epidemic.

Congratulations to this year’s trainees:

**Appointed Fellowship 2014/2015**

Diana Campbell  
Mentor: Charles Rinaldo, PhD  
Research: “*Human Herpesvirus 8 Infection in Differentiation, Transformation and Function of B Lymphocytes*”

Douglas Fischer  
Mentor: Zandrea Ambrose, PhD  
Research: “*Characterizing the Uncoating of HIV-1 Capsid and its Disruption*”

Jan Kristoff  
Mentor: Ivona Pandrea, MD, PhD  
Research: “*Role of Microbial Translocation in SIV Pathogenesis*”

**Reappointed 2nd yr. Fellowship**

Kevin Melody  
Mentor: Zandrea Ambrose, PhD  
Research: “*In Vitro and In Vivo Drug Efficacy and Resistance of Rilpivirine Long-Acting Formulation*”

Zachary Swan  
Mentor: Simon Barratt-Boyces, BVSc, PhD  
Research: “*Delineating the Role of Mononuclear Phagocytes in SIV Disease Control and Progression*”


Swan ZD, Barratt-Boyces SM. Towards delineating the role of dendritic cell and macrophages in SIV disease control and progression. The American Association of Immunologists Annual Meeting. Pittsburgh, PA; May 2-6, 2014.

Wonderlich ER, Barratt-Boyes SM. Diminished IL-12 production mediates impaired T-cell stimulating capacity of lymph node dendritic cells and macrophages in SIV infection. The American Association of Immunologists Annual Meeting. Pittsburgh, PA, May 2-6, 2014.

Recently Published Articles From the Department of IDM


Craigo JK, Montelaro RC. Lessons in AIDS vaccine development learned from studies of equine infectious, anemia virus infection and immunity. Viruses. 5:2963-2976, 2014.


Visit the IDM website at: http://www.publichealth.pitt.edu/infectious-diseases-and-microbiology