

GLOBAL HEALTH MATTERS

Fogarty International Center
National Institutes of Health
U.S. Department of Health and Human Services

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Fogarty Plans Full Slate of Fall Activities

A full slate of fall activities is being planned by Fogarty, including a symposium on polio research, the simultaneous launch of more than 200 global health-themed science journals and a lecture by the World Health Organization director. In addition, Fogarty's director and staff will be participating in the Global Health Security Initiative summit of health ministers from the G8 countries, to be hosted on the NIH campus.

A range of scientific evidence will be presented at the symposium entitled, *Polio Immunization: Moving Forward*, to be held Sept. 19-20 in NIH's Natcher Auditorium. The discussion is expected to identify knowledge gaps, define a research agenda and inform public health policy. Fogarty is sponsoring the event in conjunction with the National Institute of Allergy and Infectious Diseases.

Sessions will include an update on the present status and challenges of the eradication program, the performance of live and inactivated polio vaccines, risk and benefit assessments, as well as current and future research strategies. Registration information is available at www.fic.nih.gov.

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Save the Dates

Polio Immunization: Moving Forward
Natcher Auditorium
September 19-20, 2007

Council of Science Editors Global Theme Issue Launch
Masur Auditorium
October 22, 2007

WHO Director Dr. Chan Barmes Lecture
Masur Auditorium
December 10, 2007

Penn State Geneticist Appointed to Advise U.S. State Department on Science and Technology



U.S. Science and Technology Advisor Dr. Nina V. Fedoroff

U.S. Secretary of State Condoleezza Rice has named geneticist and molecular biologist Dr. Nina V. Fedoroff to be her new science and technology adviser. Dr. Fedoroff is a professor at Pennsylvania State University, where she also served as the founding director of its Huck Institutes of the Life Sciences.

The position of Science and Technology Adviser to the Secretary (STAS) was created in 2000, to serve as the department's chief scientist and principal liaison with the national and international

scientific and engineering communities. Dr. Fedoroff is the third person, and the first woman, to hold this position. The adviser is responsible for enhancing the science and technology literacy and capacity at the State Department, increasing the number of scientists and engineers working in Washington and missions abroad, strengthening and building bridges to the scientific and engineering communities, and providing advice on current and emerging science and technology issues as they impact foreign policy.

"We are looking forward to working closely with Dr. Fedoroff so that together we can extend our activities in training and research in global health to advance both discoveries in biomedical science and implementation of innovative public health programs abroad," said Fogarty Director Dr. Roger I. Glass. "U.S. investments in AIDS research through PEPFAR, malaria, and emerging infections demonstrate that good public health research and engagement in implementation can also be good diplomacy."

A leading geneticist and molecular biologist, Dr. Fedoroff has contributed to the development of modern techniques used to study and modify plants. She received her Ph.D. in molecular biology from the Rockefeller University in 1972. In 1978, she became a staff member at the Carnegie Institution of Washington and a faculty member in the biology department at Johns Hopkins University. She joined Penn State in 1995.

Dr. Fedoroff is a member of the National Academy of Sciences, the American Academy of Arts and Sciences and the European Academy of Sciences. She has served on the National Science Board of the National Science Foundation. Dr. Fedoroff is a 2006 National Medal of Science laureate.

Lithuanian Health Minister Visits NIH and Fogarty to Explore Possibility of Research Collaborations

Lithuanian health issues and potential areas of research collaboration were the focus of discussions during the recent visit of the Lithuanian Minister of Health Dr. Rimvydas Turcinskas to Fogarty and the NIH.

Minister Turcinskas met with NIH Director Dr. Elias A. Zerhouni and with Fogarty Director Dr. Roger I. Glass, who took the opportunity to provide information regarding the center's international training and research programs.

Lithuania—one of the Baltic States comprised of the Republics of Lithuania, Estonia and Latvia—joined NATO and the European Union (EU) in 2004. Dr. Turcinskas was named Lithuanian health minister in July 2006.

Health issues of particular interest to the delegation are:

Low Life Expectancy

Lithuanian life expectancy, especially for men, is exceptionally low by EU standards. There are high incidents of cardiovascular disease, cancer and TB, as well as accidents and suicides, especially for men in rural areas. Alcohol abuse is a significant contributory factor to both accidents and suicides.



NIH Director Dr. Zerhouni and Lithuanian Health Minister Turcinskas met recently to discuss Lithuanian health reform and areas of potential research collaboration.

Reform of the Health Sector

Preparation is underway for developing voluntary health insurance which could become one of the funding sources for Lithuanian health care. The Public Health Bureau development plans include implementation of national health programs in environment and health; communicable diseases prevention and control fields, and

other national programs related to public health. A new mental health strategy is being developed in cooperation with academic institutions, and the relationship between physicians and pharmaceutical companies is being evaluated.

Emigration of Health Professionals

Large numbers of Lithuanian doctors and nurses are leaving the country, producing shortages in rural areas. Salaries are currently being raised sharply, in order to encourage a sufficient number of health professionals not only to stay in Lithuania, but also to stay in the profession. Salary increases are to be covered by raising the budget of the Compulsory Health Insurance Fund. Structure of payments to physicians is to be based on the number of registered patients and quality of services provided.

During the two-day visit, the Lithuanian delegation met with Assistant Secretary of Health, John Agwunobi, as well as numerous NIH officials including representatives from the NIH Clinical Care Center, Office of Technology Transfer, National Library of Medicine and others.

China's New Health Minister is Well-Known to the NIH and the Fogarty Community



China has named former Vice President of the Chinese Academy of Science, Professor Chen Zhu, as its new health minister.

Minister Chen is the second non-Communist Party member to be given such a key appointment since 1972. In recent years, the Chinese Academy has issued a series of directives to fill more senior posts with academics and non-party members.

Chinese Health Minister Chen Zhu

"We have enjoyed a productive and harmonious relationship with Professor Chen during his tenure at the Chinese Academy of Science,

which we anticipate will continue as he embarks on his new position as Minister of Health," said Fogarty's Division of International Relations Director, Dr. James E. Herrington. "We look forward to working with him to expand the already robust scientific partnership NIH and Fogarty have established with China."

Born in Shanghai, Minister Chen was sent to the countryside in Jiangxi province for re-education in 1970 during the Cultural Revolution. During the next five years, he taught himself medicine and

was selected to study at a local medical school. He then obtained a master's degree in medical science from Shanghai Second Medical University in 1981, and received his doctorate from the Institute of Hematology of Hospital Saint-Louis, connected to University Paris VII, in 1989.

Back in China, he worked on blood-related diseases and molecular immunology, winning international acclaim for his achievements in the clinical and molecular study of acute promyelocytic leukemia.

Minister Chen received the State Scientific and Technological Award from the Chinese government and became the first non-French winner of Prix de l'Qise from La Legue Nationale contre le Cancer of France. He is an academicien of the Chinese Academy of Sciences, the French Academy of Sciences and the United States National Academy of Sciences.

Minister Chen is well-known to the NIH community. Fogarty hosted visits by Professor Chen in February and April 2007, to discuss issues of mutual interest.

Fogarty’s Director Receives Lifetime Scientific Achievement Award

Fogarty International Center Director Dr. Roger I. Glass is the recipient of the prestigious Charles C. Shepard Lifetime Scientific Achievement Award, in recognition of his 30-year career of scientific research application and leadership.

During a ceremony held at the CDC in Atlanta, Chief Science Officer Dr. Tanja Popovic presented the award and summarized Dr. Glass’s accomplishments.

“Distinguished as one the world’s foremost experts in viral gastroenteritis, Dr. Roger I. Glass’s accomplishments in rotavirus and norovirus research have made him an internationally recognized expert and have vastly increased recognition and prevention efforts for these viruses worldwide,” according to the award’s citation. “He challenged the assumption that rotavirus diarrhea was not a major problem among U.S. children—which played a motivating role in development of rotavirus vaccines for children in developing countries and the U.S.”

Dr. Glass and his team developed molecular assays to detect and sequence the agent norovirus, which has been identified in more than 1,000 outbreaks since 1986. He has trained or mentored scientists from more than 30 countries, has authored over 500 publications and has been recognized by numerous professional societies. Dr. Glass has conducted field studies in India, Bangladesh, Brazil,

Mexico, Israel, Russia, Vietnam, China and elsewhere. His work has shaped major public health interventions that continue to impact prevention of rotavirus deaths in developed and developing countries.

“I am honored and humbled to receive this wonderful recognition from my peers at CDC,” said Dr. Glass. “In reality, the award should go to the dozens of medical officers, visiting scientists, post-docs and colleagues whose collective efforts have helped the prevention of diarrhea at home and abroad through the use of vaccines. However, this effort is not yet over and will only be successful when we can measure the impact of these vaccines in terms of lives saved and hospitalizations averted,” he added. “I am incredibly proud to be associated with this wonderful scientific effort. Along the way, the effort has been a joy—of science, of people, of mission and commitment.”

To learn more about the Charles C. Shepard Lifetime Scientific Achievement Award visit: www.cdc.gov/niosh/Shepard.



Fogarty Director Dr. Roger I. Glass



Fogarty Attends Capitol Hill Briefing on Science and Diplomacy

Science and diplomacy were the focus of a recent Capitol Hill briefing attended by Fogarty leaders, including director Dr. Roger I. Glass (right). *International Science Collaboration: Advancing Diplomacy and Foreign Development Agendas* was led by the U.S. Civilian Research and Development Foundation (CRDF), and the honorary co-host, the Senate Science and Technology Caucus.

(Photo: U.S. Civilian Research & Development Foundation)

Fogarty Grantees Named Ambassadors for Global Health Research

Fogarty grantees Dr. Gretchen Birbeck and Dr. Jane Menken have been named ambassadors to the Paul G. Rogers Society for Global Health Research.

The program, established in 2006 by Research!America, is named for the renowned health advocate and former Florida Congressman Paul G. Rogers.

The new ambassadors will work to build a national discussion about global health research and will stress the importance of effective collaboration among the nation’s government, industry, academic, patient advocacy and philanthropic research sectors.

Dr. Birbeck is director of the International Neurologic and Psychiatric Epidemiology Program at Michigan State University. She was the principal investigator of a Fogarty Stigma and Global Health Research grant that supported a study with colleagues at the University of Zambia to examine epilepsy and its social and economic consequences from the perspective of diverse groups.



Awardees Dr. Gretchen Birbeck and Dr. Jane Menken

Dr. Menken is the director of the Institute of Behavioral Science of the University of Colorado at Boulder. She was a Fogarty advisory board member and is a principal investigator for numerous NIH grants. She is an expert on developing countries, demographic change, reproductive health, child mortality and long-term effects of socioeconomic conditions early in life on the survival of women.

The Paul G. Rogers Society is supported by the Bill & Melinda Gates Foundation.

Fogarty International Clinical Research Scholars Urged to Establish Relationships to Advance Global Health

Relationships provide the single biggest contribution to the improvement of global health, according to U.S. Assistant Secretary of Health John Agwunobi. In remarks to the 2007 Fogarty International Clinical Research Scholars at the conclusion of their orientation, he urged them to remain humble in their dealings with their foreign peers.

“Your ability to sit with the less well-endowed as equals and to have honest conversations with them—that’s what’s going to change world health,” he added. “Never be arrogant that it’s about what we can do for them. It’s about what we can do together.”

Agwunobi’s remarks concluded three weeks of intensive global health instruction on the NIH campus, designed to prepare the 49 awardees to assume their overseas research training posts.

Fogarty Director Dr. Roger I. Glass is a firm believer that an early experience in global health can inspire a lifetime of accomplishments. “It hits right on that element of idealism that you can actually identify a problem that is underserved and use your medical training to change the world,” he said.

In its fourth year, the scholars training program pairs U.S. graduate students with low- and middle-income country students or recent graduates in the health sciences. The paired awardees receive a one-year mentored clinical research training experience at a Fogarty collaborator site, working on NIH-funded clinical research.

“The matching of Americans with host nation scholars is a pillar of this program,” according to Fogarty Program Officer Dr. Aron Primack, who oversees the scholars training initiative. “We’re

trying to develop a cadre of people who really understand global health from an overarching perspective.”

Many of the previously selected scholars have already published work related to their experience abroad in peer-reviewed journals and have presented competitive papers at international meetings. The program is open to students in medicine, public health, nursing, dentistry, pharmacy, veterinary medicine and other doctoral-level programs in the health sciences from which someone might aspire to a career in global health research.

The scholars program is funded by eight NIH components including Fogarty; the National Institute of Allergy and Infectious Diseases; the National Institute on Drug Abuse; the National Cancer Institute; the National Center on Minority Health and Health Disparities; the National Institute of Dental and Craniofacial Research; the National Institute of Nursing Research and the National Institute of Child Health and Development. In addition, support for recruitment and review is provided by the Association of American Medical Colleges and the Association of Schools of Public Health.

For more information about the scholars program, visit www.fic.nih.gov/programs/training_grants/fic_ellison.htm.



U.S. Assistant Secretary of Health John Agwunobi encourages the 2007 Fogarty International Clinical Research Scholars to remain humble as they form critical relationships with foreign scientists, who share the common goal of improving global health.

Fogarty International Clinical Research Scholar Takes on New Roles in Thailand

Fogarty International Clinical Research Scholar Tanyaporn Wansom says she learned how to be flexible and adaptable during her stint in Thailand. A fourth-year medical student at the University of Michigan Medical School, she spent a year in Chiang Mai through the Fogarty training program.

In all, she spent two years in Thailand and says she served in many different roles, including health educator, English teacher, HIV testing counselor, medical interpreter, clinical researcher, advocate, activist, and most importantly, friend.

Some of the infectious disease clinics she worked in were short-staffed, she says, with two or three physicians seeing around 70 patients in a three-hour period. Ms. Wansom tried to provide information to patients since she found many of them lacked knowledge about their condition and treatment.

"I found this most important when I realized that they didn't understand anything that was going on—they were just deferring to the doctor out of respect," according to Wansom. "Medical care in Thailand is still very patriarchal and there is a definite line between patient and provider," she noted.

Thai medical education doesn't include instruction on patient education or address how to develop a bedside manner. However, health care in Thailand remains universal for its citizens and care is provided, regardless of ability to pay.

Ms. Wansom was often asked to compare the Thai and American health care systems. "Although neither of them is perfect, each has highlighted ways in which I can make a difference—as a physician, an educator and an advocate," Ms. Wansom concluded.



NIH/Fogarty Scholar, Tayaporn Wansom (center) learned how to be flexible and adaptable during her research stint in Thailand.

To learn more about Fogarty's program research grants or research training grants visit: www.fic.nih.gov/funding.

2007 Fogarty International Clinical Research Scholar Sites

The principal investigators for *Fogarty International Clinical Research Scholar Program* are:

- Dr. Stephen Calderwood, Harvard School of Public Health, Massachusetts General Hospital, and the International Centre for Diarrhoeal Disease Research, Bangladesh
- Dr. Myron Essex, Harvard School of Public Health, Departments of Immunology and Infectious Diseases, Princess Marina Hospital, Botswana
- Dr. Richard Gurrant, University of Virginia and the Federal University of Ceará, Fortaleza, Brazil
- Dr. Warren Johnson, Weill Medical College of Cornell, Division of International Medicine, Infectious Disease, Salvador, Brazil
- Dr. Myron Cohen, UNC-Chapel Hill, Center for Infectious Diseases, National Center STD and Leprosy Control, China
- Dr. Dan Fitzgerald and Warren Johnson, Weill Medical College of Cornell, Division of International Medicine, Infectious Diseases, Groupe Haitien d'Etudes du Sarcome de Kaposi et des Infections Opportunistes, Haiti
- Dr. Christine Wanke and Dr. Kenneth Maver Brown, University/Miriam Hospital, Vellore Chennai, India
- Dr. Carey Farquhar, University of Washington, Harborview Medical Center, University of Nairobi, Kenya
- Dr. Christopher Plowe, University of Maryland School of Medicine, Mali
- Dr. Robert Gilman, Johns Hopkins University, Bloomberg School of Public Health, University of Peruana Cayetano Heredia, Peru
- Dr. Joseph Zunt, University of Washington, Center for AIDS and STD Harborview Medical Center, University of Peruana Cayetano Heredia, Peru
- Dr. Quarraishaalim Sabdool Karim and Dr. Alan Berkmen, Center for the AIDS Programme of Research in South Africa Berkman at Columbia; Durban, Natal University, South Africa
- Dr. Wafaie Fawzi, Harvard School of Public Health, Departments of Nutrition, Muhimbili University, Tanzania
- Dr. Chris Bevrer, Johns Hopkins University, Bloomberg School of Public Health, Chiang Mai, Thailand
- Dr. Christopher Whalen, Case Western Reserve University, School of Medicine, Makerere University, Uganda
- Dr. Sten Vermund, Vanderbilt University Medical Center, Institute for Global Health, Center Infectious Disease Research, Zambia

Spread of Drug-Resistant Influenza Viruses Studied

Over the last few years, human influenza viruses resistant to antiviral drugs have spread worldwide. A recent analysis of influenza genomes led by the National Institute of Allergy and Infectious Diseases (NIAID) and Fogarty, suggests this surge in resistance has not occurred in response to selection imposed by antiviral drugs. Rather, the mutation that causes resistance appears to be associated with fitness-enhancing changes elsewhere in the genome.

The study—published in *Molecular Biology and Evolution*—reports that in many areas of the world, the predominant strain of human influenza virus (A/H3N2) has become rapidly resistant to a major class of drugs called adamantanes, a set of commonly-used, first-generation antivirals. In the U.S., China and Japan more than 90 percent of the viruses circulating in the 2005-2006 influenza season were resistant, compared with fewer than five percent before 2003.

In almost all cases, adamantane resistance arises from a single amino acid change in a membrane protein. The research team, led by NIAID senior scientist Dr. Lone Simonsen, examined the genomes of viruses isolated from New Zealand, Australia, Japan and the U.S. between 2004 and 2006.

All adamantane-resistant viruses examined belonged to a distinct lineage (the N-lineage) that first circulated in the Southern Hemisphere and Asia in 2005, then spread to the northern hemisphere

during 2006. This N-lineage appears to have arisen from reassortment between two other influenza A/H3N2 lineages.



The NIH/Fogarty research team was led by NIAID senior scientist Dr. Lone Simonsen.

There is no doubt that the selective pressure generated from drugs still plays a significant role in the emergence of drug resistance, the study says. However, the adamantane case is a strong reminder that other forces are also at play.

Those factors will have to be accounted for in developing disease-management strategies, says Dr. Edwin D. Kilbourne, professor emeritus of microbiology and immunology

at New York Medical College. "This paper has great practical implications for planning for future pandemics, if they occur," he says.

Fogarty's Division of International Epidemiology and Population Studies Director Dr. Mark A. Miller agrees. He adds that the work is also an important example of how useful it can be to share influenza data. "Virologists the world over have had a lot of difficulty sharing viral genomes," he notes. "This publication illustrates the power of a multinational collaboration where viruses and their whole genomes are shared to advance public health."

The study was a joint effort of NIAID and Fogarty; the Center for Infectious Disease Dynamics, Department of Biology, Pennsylvania State University; the Department of Ecology and Evolutionary Biology, Princeton University; the Canterbury Health Laboratories, New Zealand; the Los Alamos National Laboratory; Department of Microbiology, Aichi Prefectural Institute of Public Health, Japan and the Department of Zoology, University of Cambridge, U.K.

The Genesis and Spread of Reassortant Human Influenza A/H3N2 Viruses Confering Adamantane Resistance. Simonsen L, Viboud C, Bryan T, Grenfell BT, Dushoff J, Jennings L, Smit M, Macken C, Hata M, Gog J, Miller MA, Holmes EC. *Molecular Biology and Evolution*, doi:10.1093/molbev/msm103.

Fogarty-Led Research Team Presents at International Influenza Symposium



Dr. Wladimir Alonso (Fogarty), Dr. Colin Russell (Cambridge University), Dr. Mark A. Miller (Fogarty), and Dr. Derek Smith (Cambridge University) consulted with colleagues at the Options VI Symposium, a scientific symposium held in Toronto, exclusively devoted to influenza.

A Fogarty research team led by Dr. Mark A. Miller, Director of the Division of International Epidemiology and Populations Studies, made numerous presentations at the Options for Control of Influenza VI Symposium, held this summer in Toronto.

Miller's team members and their multiple collaborators presented a diverse range of epidemiologic studies ranging from the transmission dynamics and distribution of influenza in tropical areas, historical analyses of the 1918 pandemic and a

methodological framework to evaluate vaccine immunogenicity and effectiveness, among others.

For more information on the symposium, visit: www.optionsviconference.com.

Preventative Therapy Should be Considered to Avert Postpartum TB Among HIV-Infected Women in India

Active screening and targeted use of isoniazid preventative therapy (IPT) among HIV-infected women in India should be considered to avert postpartum TB, according to a recent study supported by a Fogarty AIDS International Training and Research Project grant.

More than 700 HIV-infected mothers and their infants were followed for one year after delivery at a public hospital in Pune, India. The women were evaluated for active TB during regular clinic visits and tuberculin skin tests were performed by a research team led by Johns Hopkins University School of Medicine's Dr. Amita Gupta. World Health Organization (WHO) definitions for confirmed, probable and presumed TB were used. The researchers used poisson regression to determine correlation of incident TB, and calculate the adjusted probabilities of mortality.

In the absence of preventive TB vaccines, the United Nations AIDS Program and WHO, as well as the Centers for Disease Control and Prevention guidelines, currently recommend IPT for HIV infected adults with latent TB. Targeted IPT has been shown to reduce the risk of active TB by up to 60 percent both in regions where TB is endemic and in regions where it is not endemic.



An Indian TB patient looks at her chest x-ray.

(Photo: The Global Fund)

Despite India's large HIV and TB burden, the country's guidelines do not currently recommend IPT. There is legitimate concern that widespread and inappropriate use of the therapy could increase the community burden of isoniazid-resistant TB infection and limit the success of the national TB-control program, the study says. Indian HIV-infected women have a high risk of TB during the postpartum period, regardless of their CD4 cell count, which is associated with the need for infant TB prophylaxis and high rates of postpartum maternal and infant death.

The research team concluded that although widespread use of IPT in India may be problematic, targeted administration of IPT to antepartum HIV-infected women is likely to have great benefit for preventing postpartum maternal TB, and reduce the associated high incidence of morbidity and mortality caused by mother-to-child transmission of infection.

The study was supported by Fogarty and the National Institute of Allergy and Infectious Diseases. It was undertaken in collaboration with the Byramjee Jeejeebhoy Medical College and the Johns Hopkins University Study Group.

Postpartum tuberculosis incidence and mortality among HIV-infected women and their infants in Pune, India 2002-2005. Gupta A, Nayak U, Ram M, Bhosale R, Patil S, Basawraj A, Kakrani A, Philip S, Desai D, Sastry J, Bollinger RC. *Clinical Infectious Diseases*, volume 45, June 2007.

To access full text, visit: www.journals.uchicago.edu/cgi-bin/resolve?id=doi:10.1086/518974.

TB is an Urgent Problem for Health Care Workers in Low- and Middle-Income Countries

Tuberculosis (TB) is a significant occupational problem among health care workers in low- and middle-income countries and reduction of that risk should be a priority, according to a study funded by a Fogarty grant.

Relatively simple interventions, such as early diagnosis of TB, segregation of infectious patients, or education and training of health care workers could be effective solutions, according to the study, published by *PLoS Medicine*. Additional low-cost measures might include engineering controls such as exhaust ventilation, improved natural ventilation or sunlight.

There are several important reasons why the issue should be addressed, the study says. First, occupational TB can lead to the loss of skilled workers, which can adversely impact health-care services in the future. Secondly, transmission of TB can have serious, and even fatal, consequences for patients and

care-givers. Finally, implementation of effective TB infection control can promote awareness of disease and the adoption of improved practices for its diagnosis and treatment.

Well-designed field studies evaluating the cost, feasibility, and effectiveness of possible interventions in resource-limited settings are urgently needed, the study says.

Funding was provided by a Fogarty AIDS International Training Program award and the Canadian Institutes of Health Research.

Tuberculosis among Health Care Workers in Low- and Middle-Income Countries: A Systematic Review. Joshi, R. Reingold AL, Menzies D., Pai M. *PLoS Med.* 2006 December; 3 (12):e494.

To view the article, visit: <http://medicine.plosjournals.org/perlserv/?request=get-document&doi=10.1371/journal.pmed.0030494>.



A medical trainee examines a patient in a pulmonary TB hospital in rural India.

(Photo: PLoS Medicine)

[request=get-document&doi=10.1371/journal.pmed.0030494](http://medicine.plosjournals.org/perlserv/?request=get-document&doi=10.1371/journal.pmed.0030494).

NIH Plays Key Role in Funding CRDF Research Collaborations

The NIH plays a key role in funding international biomedical research collaborations through a partnership with the U.S. Civilian Research & Development Foundation (CRDF), a nonprofit organization.

Through the financial support provided by six NIH components, including Fogarty, CRDF is able to bring together scientists from the U.S. and other countries to work on projects focusing on global health research. CRDF is able to leverage NIH support to obtain additional funding from the U.S. State Department and the National Science Foundation, as well as governments and research institutes in the countries where it operates, according to its president and CEO, Ms. Cathy Campbell.

“We have seen impressive results from our NIH-funded work,” says Ms. Campbell. “On average, NIH-supported grants result in eight publications in peer-reviewed journals and nine conference publications, with the majority at international conferences.”

CRDF maintains a strong connection with Fogarty and traditionally interacts with Director of the Division of International Relations Dr. James E. Herrington. “CRDF makes funding opportunities available and sets up relationships between scientists and institutions,” says Dr. Herrington. “It knows the actors, institutions and competencies of various regions.”

To date, CRDF has funded 25 workshops and made more than 230 cooperative grants in biomedicine and public health, supporting more than 2,220 biomedical scientists and engineers in the U.S. and abroad. Research topics include infectious diseases; alcohol abuse; vision research; mental health; heart, lung, and blood disorders; neurological disorders and stroke; and child and maternal health.

In one project supported by the NIH’s National Institute of Allergy and Infectious Diseases, scientists from the U.S. and Uzbekistan will collaborate on a two-year research project to address the effects of particulate matter pollution on human health in Tashkent, the capital of Uzbekistan.

“CRDF makes funding opportunities available and sets up relationships between scientists and institutions. It knows the actors, institutions and competencies of various regions.”

**— Dr. James E. Herrington, Director,
Division of International Relations,
Fogarty International Center**

“CRDF is a mechanism available for researchers who have never received funding from international organizations,” said Fogarty’s Program Officer for Russia, Eurasia and Arctic Affairs Dr. Marya Levintova. “It is an opportunity for starting one’s collaborations with U.S. researchers that can further progress to grants from such organizations as the NIH, National Science Foundation and others.”

Ms. Campbell agrees, saying evidence shows that both U.S. and Eurasian collaborators develop the tools and experience they



With NIH support, provided through a U.S. Civilian Research & Development Grant, Dr. Vadim Makarov conducts HIV/AIDS research at the State Research Center for Antibiotics in Moscow, Russia.

(Photo: U.S. Civilian Research & Development Foundation)

need to successfully compete for further funding, including from the NIH.

Fogarty’s program officer for the Middle East and North Africa, Ms. Judy Levin said CRDF exhibits “an ability to look at issues from all sides.” For instance, she notes that CRDF has been addressing bioethics in the context of international research, and working to strengthen human subject protections in its grant programs. CRDF’s consultations with experts on this issue have included meetings held on the NIH campus.

Fostering the discovery of knowledge between U.S. scientists and their counterparts in regions outside of the former Soviet Union—including the Middle East—is part of the future for CRDF, said Dr. Herrington. “Issues exist in the Middle East that are similar to those experienced in the former Soviet Union.”

NIH components that supported CRDF in 2006 include: the Fogarty International Center; the National Institute of Allergy and Infectious Diseases; the National Institute of Drug Abuse; the National Eye Institute; the National Institute of Environmental Health Sciences; and the National Heart, Lung, and Blood Institute.

To learn more about CRDF visit: www.crdf.org.

Cerebrovascular Disease May Pose Suicide Risk in Later Life

Cerebrovascular disease may predispose older adults to commit suicide, according to a recent study supported by Fogarty's Trauma and Injury Program.

Research into neurobiological factors associated with late-life depression has suggested cerebrovascular risk factors may play important roles at clinical and pathophysiological levels, according to the study published in the *American Journal of Geriatric Psychiatry*.

These observations form the basis for the hypothesized association between cerebrovascular risk factors (CVRFs) and the so-called vascular depression, or late-onset depression that may be characterized by poor insight, lack of guilt, psychomotor retardation and impairment in executive function.

Significant correlation between subcortical white matter hyperintensities (WMHs) and clinical CVRFs (age, small vessel disease and hypertension) was reported in a community sample. Epidemiologic study has also shown that stroke increased risk of suicide in middle-aged and older adults under 60 years of age.

Based on the strong association between late-life suicides and depression on the prevalence of CVRFs in late life, the team hypothe-

sized that CVRFs mediate risk in late-life suicides. In this study, the team examines whether CVRFs were found more often in a sample of suicides aged 50 years and over than in a matched sample of living controls.

The team, lead by Dr. Sandra S. Chan of the University of Rochester, calculated cerebrovascular risk factor (CVRF) score, based on the American Heart Association criteria, for each case and comparison subject from a psychological autopsy study of suicide among community-dwelling adults over age 50.

They found CVRF scores were significantly higher in suicide cases than community-dwelling comparison subjects after accounting for age, sex, depression diagnosis and functional status. It was concluded that cerebrovascular disease may predispose to suicide in older adults by a variety of psychopathological means.

Do Cerebrovascular risk factors confer risk for suicide in later life? A case-control study. Chan SS, Lyness JM, and Conwell, Y. *Am J Geriatric Psychiatry* 15:541-544, June 2007.

To access full text visit: <http://ajgponline.org/cgi/content/full/15/6/541>.

Fogarty Plans Full Slate of Fall Activities

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On Oct. 22, Fogarty will co-host a presentation featuring a number of papers included in the Council of Science Editors' 2007 Global Theme Issue on Poverty and Human Development. More than 200 journals around the world will simultaneously publish papers devoted to the topics.

Following a welcome by NIH Director Dr. Elias A. Zerhouni and opening remarks by Fogarty Director Dr. Roger I. Glass, the Council's president and editor of *The Croatian Medical Journal*, Dr. Ana Marusic, will provide an international perspective. The program will include the presentation of papers selected by an expert panel, moderated by *Journal of the American Medical Association* Editor in chief Dr. Catherine DeAngelis and *British Medical Journal* Editor in chief Dr. Fiona Godlee.

The event will be held in Masur Auditorium on the NIH campus and is open to the public. In addition to Fogarty and the Council, it is being sponsored by the National Library of Medicine.

On Dec. 10, WHO Director Dr. Margaret Chan will visit NIH to deliver the David E.

Barnes Global Health Lecture. The event will be held in NIH's Masur Auditorium and is open to the public.

The annual lecture series honors the late David E. Barnes, a long-standing World Health Organization employee and ardent spokesman for global health. The series is sponsored by Fogarty, in partnership with the National Institute of Dental and Craniofacial Research.

Finally, Fogarty's director and staff will help NIH host the Global Health Security Initiative (GHSI) ministerial summit on Nov. 1-2. U.S. Department of Health and Human Services Secretary Mike Leavitt will welcome the other seven GHSI ministers to the NIH campus, along with the European Union Health Commissioner and the Director-General of the World Health Organization. This is the eighth such meeting and the first to be hosted by the U.S.

The summit will be preceded by three days of technical working group meetings, bilateral sessions, tours of local research facilities and consultations with U.S. scientists.

Formed after Sept. 11, 2001, the Global Health Security Initiative is an informal



Fogarty's historic "Stone House," will be the site of several events during the Health Security Initiative Ministerial Summit.

partnership that works to strengthen health preparedness and response globally to threats of biological, chemical, radio-nuclear terrorism and pandemic influenza.

More information is available at www.ghsi.ca.

FOGARTY IN THE NEWS

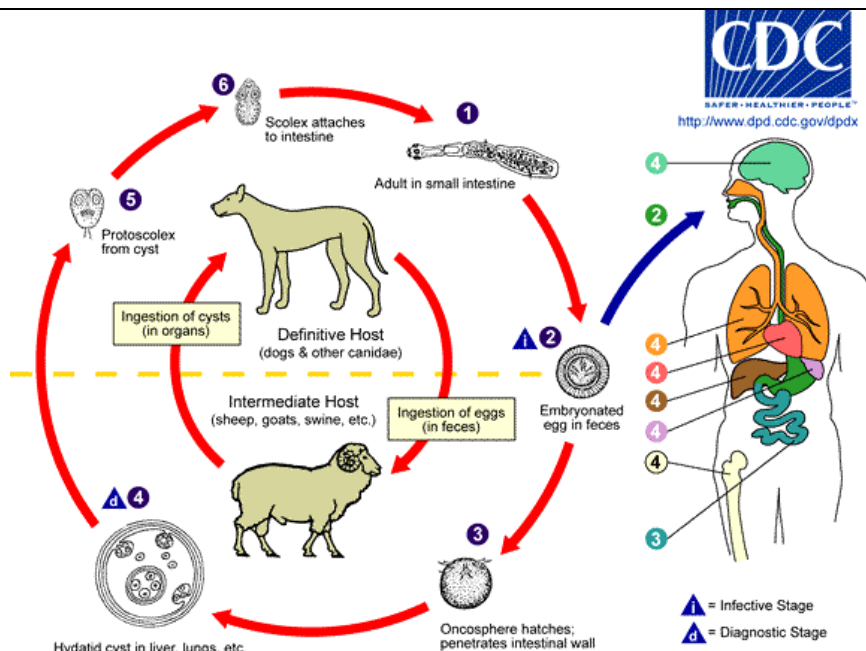
NIH-Supported Workshop Sparks Research Collaboration

An NIH-supported workshop to discuss data related to the prevention and control of cystic echinococcosis, or hydatid disease, sparked a research collaboration that has resulted in a significant review paper published in the June 2007 issue of *The Lancet Infectious Diseases*.

The workshop—sponsored by the NIH Office of Rare Diseases and the Universidad Peruana Cayetano Heredia in Lima, Peru—brought together a team of researchers with expertise in echinococcosis, including **two Fogarty grantees**. **Dr. Robert H. Gilman**, principal investigator of a Fogarty International Research Collaboration Award to Johns Hopkins University and **Dr. Philip S. Craig**, principal investigator of an Ecology of Infectious Diseases grant to the University of Salford in the United Kingdom, both contributed research and were co-authors on the paper.

Hydatidosis is a chronic cyst-forming parasitic disease of humans, as well as animals including dogs and sheep, and is a substantial cause of morbidity and mortality in many parts of the world. It was previously thought elimination would take about 20 years of sustained effort. By incorporating new measures, the paper's authors suggest effective prevention of disease transmission could be achieved in as little as five to 10 years.

Prevention and control of cystic echinococcosis, The Lancet Infectious Diseases, June 2007.



theguardian Fogarty Grantee Featured in UK's Guardian

The UK's *Guardian* newspaper recently featured **Fogarty's AIDS International Training Program** in a story headlined, "Nigeria, U.S. join forces on local HIV drugs." The article discussed an agreement between the Institute of Human Virology at the University of Ibadan and Ahmadu Bello University in Zaria, which would build capacity in bioethics.

Fogarty-Supported Research Advances Thinking on Botanical Therapeutics

Mixtures of interacting compounds produced by plants may provide important combination therapies, according to a Fogarty-supported investigator in the July issue of *Nature Chemical Biology*. The paper, "Revisiting the Ancient Concept of Botanical Therapeutics," makes the case that developing innovative scientific methods for discovery, validation, characterization and standardization of multi-component botanical therapeutics is essential to their acceptance into mainstream medicine.

Dr. Ilya Raskin—the paper's lead author—is **principal investigator on Fogarty's International Cooperative Biodiversity Groups (ICBG) award** to Rutgers University. An important argument favoring multi-component botanical therapeutics (MCBTs) is that they provide combination therapies which can simultaneously target various elements of human diseases, providing efficacy and safety unmatched by single-ingredient drugs, the study says. This multi-targeted "birdshot" approach may provide a viable alternative to the "silver bullet" tack, potentially improving overall pharmacokinetic properties and patient response. This approach is being explored in the ICBG research.

"We hope that future regulatory policies will favor scientifically designed, validated and standardized MCBTs," the paper's authors state. "Botanical drugs, approved by the FDA, prescribed by physicians, reimbursed by insurers and marketed by pharmaceutical companies are well-positioned to play a greater role in medicine."

Revisiting the Ancient Concept of Botanical Therapeutics, Nature Chemical Biology, July 2007.



Herrington Co-authors Paper on Vaccination and Risky Behavior

Will being immunized with the HPV vaccine increase the likelihood young women will engage in risky sexual behavior? To help answer that question, **Fogarty's Director of International Relations Dr. James E. Herrington** and several colleagues revisited data gathered regarding the Lyme disease vaccine. Their paper, "Risk Compensation and Vaccination: Can Getting Vaccinated Cause People to Engage in Risky Behaviors?," was published in the June issue of the *Annals of Behavioral Medicine*.

This prospective study examined over an 18-month period the reciprocal relationship of risk perception, decisions to get vaccinated against Lyme disease, and engaging in other Lyme disease protective behaviors. While the study found that getting the vaccine caused a steep drop in risk perception, it caused only a slight drop in the respondents' protective behaviors. The frequency of these protective behaviors did not dip below that among unvaccinated respondents.

The study was conducted by taking a random sample of 705 adults in northeastern U.S. areas with high Lyme disease incidence. Respondents were asked about their protective behaviors, such as using tick repellent, wearing light colored clothing and avoiding certain areas of their yards, before and after they were vaccinated. The causative agent of Lyme disease is a



bacterium transmitted by the bite of the deer tick (*Ixodes scapularis*) that is commonly found in wooded and grassy areas in the northeastern U.S.

Risk Compensation and Vaccination: Can Getting Vaccinated Cause People to Engage in Risky Behaviors?, Annals of Behavioral Medicine, June 2007.

New York Times Interviews Former Fogarty AIDS Trainee



Former Fogarty-funded trainee **Dr. Indiana Torres** was interviewed and pictured in a recent *New York Times* article titled, "Mexican Migrants Carry HIV Home." The piece described the expanding HIV/AIDS crisis in rural Mexican states caused partly by migrant workers returning from the U.S.

Rural Mexican women face the greatest risk of contracting HIV by having sex with their migrant husbands, according to a study cited in

the article. Dr. Torres, who received training under Fogarty's AIDS International Training and Research Program, was quoted saying the migrant husbands think that because they are in the U.S., they are safer. She also reports that 22 percent of the 1,000 or so HIV/AIDS cases handled by her clinic at Puebla General Hospital can be traced to migration.

Cornell's Framework Grant Featured in Human Ecology

Fogarty's Framework Programs for Global Health award to Weill Cornell Medical College was featured in the current edition of *Human Ecology Magazine*. While scientists and physicians from different components of Cornell have been working in developing countries for more than 40 years, the framework grant has brought them together to collaborate in new ways.

"The framework program has already stimulated new conversations on global health issues among faculty who were previously unaware of each other," according to Dr. Rebecca Stoltzfus, co-director of Cornell's Global Health program.

To read the full article, please visit: <http://www.human.cornell.edu/che/Outreach/human-ecology-magazine.cfm>

PEOPLE



Fogarty Grantee Doumbo Honored

Fogarty grantee and malaria researcher Professor Ogobara K. Doumbo was recently elected to the French National Academy of Medicine and received the prestigious Christophe and Rodolphe Merieux Foundation award.

Professor Doumbo, director of the Malaria Research and Training Center at the University of Bamako in Mali, is the foreign co-principal investigator on Fogarty's Global Infectious Disease Research Training grant to the University of Maryland. He was also an author on the Fogarty-supported Disease Control Priorities Project.

Fogarty Representatives Attend Global Bioethics Research Forum

Ethics in mental health research was the focus of the eighth Global Forum on Bioethics in Research, which met recently in Vilnius, Lithuania. The annual meeting was established by Fogarty to provide a platform for discussion about research ethics between the various stakeholders in medical research in developing countries, including scientists and ethicists from developed and developing countries, community representatives, policy-makers and industry sponsors.

The event was attended by over 130 participants from 48 countries. Fogarty was represented by the Division of International Science Policy, Planning and Evaluation Director Dr. Karen Hofman and the Division of International Training and Research Program Officer Dr. Barbara Sina, as well as by a number of Fogarty grantees and trainees, including substantial contingents from Latin America, Eastern Europe, the former Soviet Union and Sub-Saharan Africa. Since its creation in 1999, over 1,000 people have attended the forum, with 75 percent coming from the developing world.

The next Global Forum is scheduled for 2008 in Auckland, New Zealand, and will focus on indigenous people and cultural responsibility in research.

Information about the Global Forum is available at: www.gfbronline.com.



Fogarty Scientist Presents at Neuroscience Conference

Fogarty's program officer for the Brain Disorders in the Developing World (BRAIN) awards, Dr. Kathleen Michels, discussed NIH funding opportunities with an audience of global health advocates and scientists at a recent neuroscience conference in Melbourne. The

International Brain Research Organization (IBRO) joined forces with the Australian Neuroscience Society to sponsor the IBRO International Congress of Neuroscience. The six-day program was attended by more than 2,500 participants from 63 countries.

"The most gratifying part of the session was the networking that occurred, particularly among the African attendees who made plans for further contact and possible collaborations," said Dr. Michels.

A number of FIC grantees attended the event including BRAIN collaborators Dr. Vivienne Russell, of the University of Cape Town and Dr. Willie Daniels, of the University of Stellenbosch.

To learn about the BRAIN program visit: http://www.fic.nih.gov/programs/research_grants/brain_disorder.

For more information about IBRO, see: <http://www.ibro>.



Fogarty Names New Communications Director

Fogarty has named Ann Puderbaugh its new communications director. Previously, Ms. Puderbaugh led media relations efforts at the NIH's National Center for Research Resources and the National Endowment for the Arts. Up to then, she worked as a journalist, helping to establish

both the Associated Press Television News operation in Washington and America Online's service to Canada. She began her career with ABC News in London, where she spent a decade producing television coverage from Europe and the Middle East.

Americans Think Emerging Diseases Will Threaten the U.S.

When asked, *In general, to what extent do you think infectious and emerging diseases facing other countries (such as flu, tuberculosis and SARS) will pose a treat the U.S. in the next few years*, 35 percent responded that it will pose a major threat, 58 percent said it will pose a minor threat and seven percent said it will not pose a threat.

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FOGARTY UPCOMING PROGRAM ANNOUNCEMENTS

Program	Contact	Receipt Date	Eligibility
Global Infectious Disease Research Training Program (GID)	Barbara Sina, PhD sinab@mail.nih.gov	September 13, 2007	U.S. and low- to middle-income institutions with demonstrated history of research collaboration.
Framework Programs for Global Health (FRAMEWORK)	Flora Katz, PhD katzf@mail.nih.gov	September 20, 2007	U.S. and low- to middle-income institutions with key personnel on minimum number of currently-funded NIH grants in global health; applications must represent multi-disciplinary coalition and include representatives from at least three distinct schools or departments.
Fogarty International Research Collaboration Award—Basic Biomedical (FIRCA—BB)	Kathleen Michels, PhD michelsk@mail.nih.gov	September 21, 2007	PI of U.S. -based NIH-sponsored research project grant that will be active for at least one year beyond submission date of application, in collaboration with partner institutions in low- to middle-income countries.
Fogarty International Research Collaboration Award—Behavioral and Social Sciences (FIRCA—BSS)	Kathleen Michels, PhD michelsk@mail.nih.gov	September 21, 2007	PI of U.S. -based NIH-sponsored research project grant that will be active for at least one year beyond submission date of application, in collaboration with partner institutions in low- to middle-income countries.
GRIP Basic Biomedical and GRIP Behavioral and Social Science (GRIP)	Aron Primak, MD primacka@mail.nih.gov	September 21, 2007	Low- to middle- income scientists currently or recently supported through Fogarty D43 international training programs, through NIH Visiting Program for Foreign Scientists, or as NIDA INVEST or Humphrey Fellowships.
International Research Ethics Education and Curriculum Development Award (BIOETH)	Barbara Sina, PhD sinab@mail.nih.gov	December 14, 2007	U.S. citizens or permanent residents; applicant must have doctoral or medical degree, or equivalent, in social science, behavioral science or health science field earned within past seven years; applicant must have U.S. sponsor or mentor affiliated with internationally recognized low- to middle-income research facility.
AIDS International Training and Research Program (AITRP)	Jeanne McDermott, PhD mcdermoj@mail.nih.gov	December 21, 2007	U.S. (or pre-approved non-U.S.) nonprofit, public or private institutions with HIV/AIDS and HIV-related research collaborations with low- to middle-income country institutions.

Fogarty's program research grants or research training grants are listed at: www.fic.nih.gov/funding

FOGARTY UPCOMING EVENTS

Event	Date	Location	Summary
<i>Polio Immunization: Moving Forward</i> Agenda available at: www.fic.nih.gov	September 19, 2007 9 a.m.— 5 p.m. September 20, 2007 9 a.m.— 3:00 p.m.	Natcher Auditorium (Building 45) Balcony B and C	Since 1988, the WHO Global Polio Eradication Initiative (GPEI) has made great progress in reducing the incidence and prevalence of disease and infection. Yet, impediments to eradication exist. A range of scientific evidence will be discussed to identify knowledge gaps, define a research agenda and inform public health policy. The symposium will be hosted by Fogarty and the National Institute of Allergy and Infectious Diseases (NIAID).
Dr. Enrique Gadow, geneticist University Hospital of Buenos Aires, Argentina <i>Prevention of Birth Defects and Prematurity: Myths and Facts</i> Lawton Chiles International Lecture on Maternal and Child Health in the Americas	September 19, 2007 10 a.m.	Stone House (Building 16)	This annual lecture series is sponsored by Fogarty and the National Institutes of Child Health and Human Development (NICHD) and the Lawton Chiles Center for Healthy Mothers and Babies at the University of South Florida.
<i>Council of Science Editors Global Theme Issue Launch</i>	October 22, 2007 10 a.m. — 3:30 p.m.	Masur Auditorium (Building 10)	The Council of Science Editors have arranged for more than 200 international journals to publish articles on the themes of global poverty and human development. Selected papers will be showcased at this event.
Dr. Margaret Chan WHO Director <i>David E. Barmes</i> Global Health Lecture	December 10, 2007 3 p.m.	Masur Auditorium (Building 10)	This annual lecture series honors the late David E. Barmes, a long-standing World Health Organization employee and ardent spokesman for global health. The series is sponsored by Fogarty and the National Institute of Dental and Craniofacial Research.

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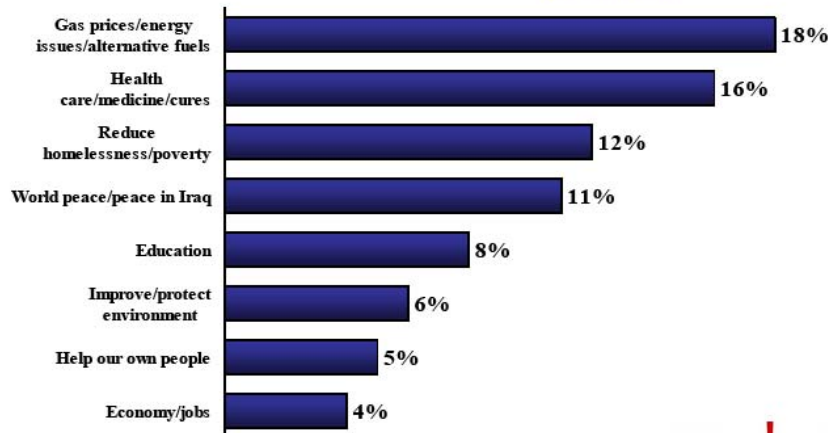
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Investing in Health Can Change the World

If the U.S. decided to invest in one thing to really make a difference in the world, what do you think that one thing should be? (*first mentions*)



Attitudes: Global Health Research
Charlton Research for Research!America, 2006

