

# GLOBAL HEALTH MATTERS

Fogarty International Center

National Institutes of Health

Department of Health and Human Services

## Center honored by global health leaders



Rep. Donald M. Payne, D-N.J., chairman of the House Foreign Affairs subcommittee on Africa was cited for his global health

**T**he Fogarty International Center's 40th anniversary gala brought together leaders from Congress, federal agencies, science, advocacy groups, the diplomatic corps and businesses with interest in global health issues.

As the Center enters its fifth decade, its achievements were celebrated: training more than 5,000 individuals, operating programs in more than 100 countries, representing the NIH in international affairs and using its prestige and resources to leverage a small budget into a powerful force—first for combating infectious disease and now the epidemic of chronic diseases facing poor countries as well as the rich.

The Foundation for the National Institutes of Health hosted the Oct. 15 dinner and honored Sen. Richard G. Lugar, R-Ind., and Rep. Donald Payne,

D-N.J., for their global health leadership in Congress.

Lugar, ranking minority member of the Senate Foreign Relations Committee, has used his *(continued on p. 2)*



Sen. Richard Lugar, R-Ind., right, and Fogarty Director Dr. Roger I. Glass, greet Dr. Charles A. Sanders, head of the Foundation for the NIH.

## Congressman Fogarty's legacy celebrated



Sen. Jack Reed, D-R.I., describes the wide bow ties that personified the Center's namesake, the late Rep. John E. Fogarty.

**A**s part of its 40<sup>th</sup> anniversary commemoration, the Center celebrated its close ties to Rhode Island—birthplace of its namesake—with a recent grant announcement at Brown University.

Sen. Jack Reed, D-R.I., paid tribute to the late Rep. John E. Fogarty, calling him “an extraordinary public servant” who understood the role of public health, at home and across the globe.

He said it is symbolic that Fogarty, a bricklayer, was the real craftsman who laid the foundation for NIH as chairman of the House health appropriations subcommittee.

“Of course his edifice—the NIH, and the Fogarty Center for 40 years—has been a remarkable beacon of hope, progress and enlightenment throughout the world,” Reed noted.

Fogarty Director **Dr. Roger I. Glass** used the occasion to recognize Brown for its strong history in global health and to announce it will receive one of the Center's 12 new Framework grants to further develop its programs.

*(See “Framework grants awarded” on p. 10)*

### Featured Inside

|                               |          |                            |           |
|-------------------------------|----------|----------------------------|-----------|
| <b>Climate change and NIH</b> | <b>3</b> | <b>Framework successes</b> | <b>8</b>  |
| <b>Fogarty's “rich soil”</b>  | <b>5</b> | <b>PEOPLE</b>              | <b>15</b> |

# Little known locally, but resonant globally



**Krista Pfaendler**, a former Fogarty Scholar and now medical student at the University of Pittsburgh, tells the gala audience what training in Zambia meant to her.

(continued from p. 1)

influence to make prevention and control of infectious diseases part of U.S. diplomacy. Payne, chairman of the House Foreign Affairs Subcommittee on Africa and Global Health, has been a champion of health-related water and sanitation issues around the world. Both were instrumental in reauthorizing the President's Emergency Plan for AIDS Relief.

In the keynote address, Director Dr. Roger I. Glass stressed that the relatively small amount of funding Fogarty receives is some of the most wisely spent in government because it seeds research training in the United States and abroad for global health practitioners who leverage their grants into productive careers in their home countries.

"Smart investments can move the world," he said, borrowing Archimedes' dictum, "Give me a lever and a place to stand and I can move the world."

Glass cited the Center's successful research training programs in AIDS, TB, malaria and chronic disease, for example, as a catalyst for young grantees to establish themselves and attract funding for their work from other sources.

"In Washington, Fogarty may be the best kept secret, but the name resonates around the world," said Glass. "Grantees tell me that Fogarty provides

the best grants—most strategic; not large, but well placed—like Archimedes' lever," Glass said, calling the Center "a jewel in the crown, a small cog with a special role that can make large investments yield even greater rewards."

The Fogarty International Center was named for the late Rep. John E. Fogarty of Rhode Island, who as chairman of the House Appropriations health subcommittee championed the value of international research. His daughter, Mary McAndrew, three granddaughters and their spouses were among the guests.

"Congressman Fogarty understood that good health is not only good for its own sake. It's also good for prosperity, for promoting friendship among nations and for global security. It is in all of our best interest to finish his work," said Foundation chairman **Dr. Charles A. Sanders**.

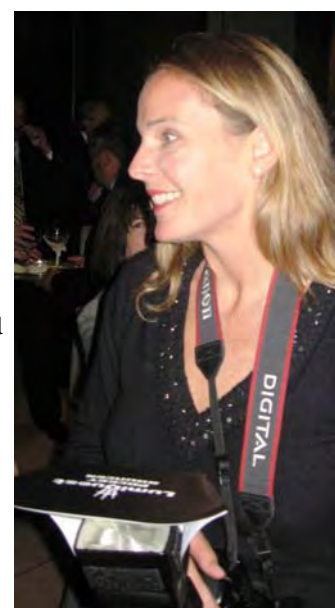
The dinner was held in the atrium of the ornate Italian embassy and sponsored by Lilly, the Abbott Fund, Bristol-Myers Squibb Foundation, ExxonMobil, Pepsico, Aeras Global TB Vaccine Foundation, the Burroughs Wellcome Fund, Merck, Pfizer, Tibotec and the United Nations Foundation.



Former Rep. John Edward Porter, vice chairman of the Foundation for the NIH, chats with Dr. Anne Barker of the National Cancer Institute at the pre-dinner reception at the Italian Embassy.



Research!America's President **Mary Woolley** chats with **Dr. Joe Feczko** (center), chief medical officer at Pfizer Inc., a member of the Foundation board, and **Bob Ingram**, former CEO of SmithGlaxoKline.



**Mercedes McAndrew**, granddaughter of the late Rep. John E. Fogarty, was among 10 family members attending the gala.



# Fogarty, NSF award ecology of disease grants

In conjunction with the National Science Foundation, Fogarty has awarded eight new projects for the study of how large-scale environmental events—climate change, habitat destruction, biological invasions and pollution—alter the risks of infectious diseases.

“Ecological studies of infectious diseases are beginning to move from basic science to translational research. The results will help us to better manage these diseases,” Fogarty program director **Dr. Joshua Rosenthal** says.

This year's awards, totaling \$16 million, support studies on:

- Bacterial pathogens and human infectious diseases in an estuary subjected to extreme climatic events. (**Rachel Noble**, University of North Carolina at Chapel Hill)
- Virulence trade-offs in a vertebrate virus—infectious haematopoietic necrosis (IHN)—a disease of salmon and trout. (**Benjamin Kerr**, University of Washington)
- Agricultural antibiotics and human health, using a multi-scale ecological approach to the development and spread of antibiotic resistance. (**Joseph Eisenberg**, University of

Michigan)

- Environmental determinants favorable for the presence and transmission of vibrios, bacteria typically found in saltwater and important human



*Photo by Jon Epstein, Center for Conservation Medicine*  
Collecting the sap of date palms to sell as a sweet drink in Bangladesh may be a risk factor for bat-to-human transmission of the Nipah virus.

pathogens. (**Crystal Johnson**, University of Southern Mississippi)

- Eco-epidemiology of West Nile virus emergence in urban areas. (**Tony Goldberg**, University of Wisconsin at Madison)
- Ecology of anaplasmosis, a tick-borne disease in cattle, and the relationship of disease reservoirs, risk and incidence, (**Felicia Keesing**, Bard College)

Awards funded entirely by Fogarty are for studies on:

- “Immune landscapes” of human influenza in households, towns and cities of southern China. (**Derek Cummings**, The Johns Hopkins University)
- Ecology, emergence and pandemic potential of Nipah virus, a virus harbored in fruit bats, in Bangladesh. (**Peter Daszak**, Center for Conservation Medicine)

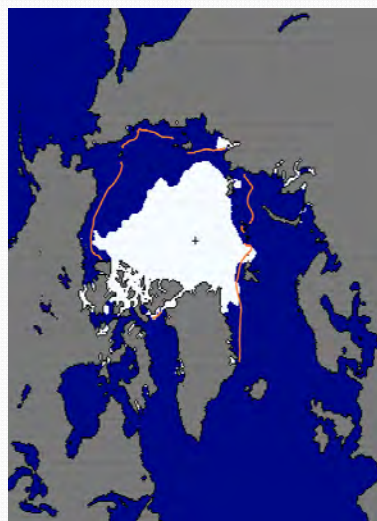
The coincidence of broad-scale environmental changes and the emergence of infectious diseases points to underlying and predictable ecological relationships, said Rosenthal. “The EID program links these components to produce a comprehensive understanding of disease transmission.”

## Unified NIH research agenda on climate change sought

With global warming a ripe political and environmental issue, a working group representing 16 institutes, centers and offices has been formed under Fogarty leadership to help the NIH demonstrate the relevance of basic health research to climate change policy.

Because the approximately 900 projects funded by the NIH are scattered among portfolios in 24 institutes and centers—and because most grants support basic research only indirectly linked to global warming—the group's first task is to analyze the research in the context of probable health effects of climate change.

The group's goal is to use the existing science base at NIH to “evolve a coherent strategy, including the identification



*Courtesy: NASA*  
A satellite photo shows retreat of the Arctic ice cap as of Sept. 29.

of gaps and priorities for future investments,” says chair **Dr. Joshua Rosenthal**, deputy director of Fogarty's division of international training and research.

“It appears almost certain HHS and NIH will be asked to provide such a strategy,” he said at the first meeting of the Trans-NIH Working Group on Global Health and Climate Change.

“Health research and the scientific rigor that NIH can bring will be critical to inform the growing number of climate change programs among agencies,” Rosenthal said.

It plans to produce a research agenda in the next year for use by the new administration based on portfolio analysis, literature surveys, interagency discussions and at least one public conference.

## High-risk grants offered

The NIH recently announced a new five-year \$250 million program to foster radical or high-risk science proposals outside the traditional application process.

In response to the complaints that the current RO1 investigator-initiated grant process discourages bold, creative and risky research proposals, the NIH created the T-RO1 program—the T standing for “transformative.”

“The T-RO1 Program will pilot novel approaches to peer review to facilitate identification and support of the most ground-breaking, high impact research and augment the existing Pioneer and New Innovator Awards programs,” said NIH Director Dr. Elias A. Zerhouni.

The purpose of the T-RO1 Program is to support exceptionally innovative, original or unconventional research that will allow investigators to seize unexpected opportunities and cultivate bold ideas regardless of the anticipated risk.

“Conventional wisdom says that RO1 applications of this sort are ‘dead on arrival.’ The hope is that the T-RO1 program will liberate scientists to unveil extraordinary ideas and approaches, and that novel review and support procedures still select the best for funding,” said Dr. Keith R. Yamamoto, co-chair of the advisory panel to the director’s peer review working group.

Studies favored under the new program would come from the following fields—science of behavior change, protein capture, functional variation in mitochondria, complex 3-D tissue models, acute to chronic pain transition and pharmacogenomics.

The program’s goals are to:

- Forge the synthesis of new paradigms for biomedical or behavioral sciences.
- Reflect an exceptional level of creativity in proposing bold and ground-breaking approaches to fundamental problems.
- Promote radical changes in a field of study with a profound impact in other scientific areas.
- Be evaluated by new procedures being piloted by the NIH Center for Scientific Review that are distinct from the traditional NIH peer review process.

Applications are being accepted now. For more information go to <http://tinyurl.com/45o8fh>

## Zerhouni leaving NIH



NIH Director **Dr. Elias A. Zerhouni**, who announced his departure as of Oct. 31, chats with Fogarty Director **Dr. Roger I. Glass** before a Fogarty-sponsored lecture earlier this year.

*“Elias has raised the profile of global health and used American scientific good will as a diplomatic tool,” Glass said. “I am sure that in whatever he does next, he will contribute to the two-way flow of medical research and training between North and South.”*

## New global health policy center

The Center for Strategic and International Studies, a Washington-based foreign policy think tank, recently launched a Global Health Policy Center with support from the Gates Foundation.



From left, CSIS advisers former Sen. Bill Frist, the World Bank’s Debrework Zewdie and Robert Matlett, president of the Pfizer Foundation.

Fogarty Director Dr. Roger I. Glass attended the opening forum, where the director, Dr. J. Stephen Morrison, outlined its goals as generating a strategic vision for global health and enlarging the pool of advocates from the ranks of foreign policy, international security, media and business.



## Early flu wave may protect against worse one later

American soldiers who were afflicted by the first mild wave of influenza in early 1918 apparently were more immune than others to the severe clinical effects of a more virulent strain later in the year, according to research by Fogarty epidemiologist **Dr. Cécile Viboud** and colleagues.

"If a mild first wave is documented, the benefits of cross-protection during future waves should be considered before implementing public health interventions designed to limit exposure," the authors suggested.

The findings by Viboud and coauthors medical historian John Barry and Dr. Lone Simonson, Ph.D., of The George Washington University, were published online ahead of the Nov. 15 issue of the *Journal of Infectious Diseases*.

**Dr. Mark Miller** director of the Fogarty Center's Division of International Epidemiology and Population Studies, said the finding could have implications for future pandemics.

"If a 1918-like pandemic were to

repeat itself, the early circulation of less pathogenic pandemic viruses could provide some level of population immunity that would limit the full onslaught from the second wave."

"Together with historical data recently uncovered from Denmark and New York City, this study gives us a different look at the process of adaptation of novel pandemic influenza viruses to humans and the evolution of virulence," Viboud said.

Among soldiers at U.S. training camps, the rate of illness among soldiers was 3.4 times higher among those who had not previously had the flu, and the rate of death per case was about five times as high.

For people who were infected in the first wave, the risk of illness in the second wave was reduced by between 35 percent to 94 percent, about the same protection as for modern vaccines—70 percent to 90 percent.

The risk of death was reduced between 56 percent to 89 percent. At one base, a regiment that had transferred in from Hawaii where soldiers were exposed to the spring



National Archives  
Seattle police try not to catch the flu during the 1918-1919 pandemic.

wave had a 6.6 percent incidence in the fall compared to 48.5 percent in a regiment transferring in from Alaska, where soldiers had not been exposed.

*Cross-protection between successive waves of the 1918-1919 influenza pandemic: epidemiological evidence from US Army camps and from Britain.* John M. Barry, Cécile Viboud and Lone Simonsen. *J Infect Dis* 2008 Nov 15;198



Fogarty scientist **Dr. Michael Levy** examines a household in Arequipa, Peru for triatomine bugs as part of a project to fight the spread of Chagas disease. The bugs are attracted to guinea pigs, a food source for Peruvians.

## Nets could help quash Chagas disease

Fogarty researchers have found that insecticide-treated netting can dramatically slow the spread of bugs that carry Chagas disease, a chronic and potentially fatal infection that puts 25 percent of Latin Americans at risk.

It is the first time that netting has been shown to be effective against Chagas, say the authors of a study in the October issue of *The American Journal of Tropical Medicine and Hygiene*.

Lead author **Dr. Michael Z. Levy**, a Fogarty postdoctoral fellow, and senior scientist **Dr. F. Ellis McKenzie**, set up an experiment in a crowded neighborhood of Arequipa, Peru, in which the guinea pigs were guinea pigs.

The rodent is a staple of Peruvian food production and a common host for the parasite.

They determined that almost five times as many of the bloodsucking Chagas-carrying bugs *Triatoma infestans* were kept out of cages with insecticide-treated nets placed over them than in cages without nets, where the researchers placed bricks that attract the insects.

"Insecticide-treated nets have been shown to be effective in malaria control and potentially in the control of leishmaniasis," the authors said. "Now we know that they may also be a valuable tool in the control of Chagas disease."

*Impregnated Netting Slows Infestation by Triatoma infestans.* Michael Z. Levy, Victor R. Quispe-Machaca, Jose L. Ylla-Velasquez, Lance A. Waller, Jean M. Richards, Bruno Rath, Katty Borrini-Mayori, Juan G. Cornejo del Carpio, Eleazar Cordova-Benzaquen, F. Ellis McKenzie, Robert A. Wirtz, James H. Maguire, Robert H. Gilman and Caryn Bern. *Am J Trop Med Hyg.* 2008; 79:528-534.

# The next generation in global health

## Fogarty launching pad for Wolfe

The adventures of **Dr. Nathan Wolfe**, one of the new generation of epidemiology stars in academia, were recently featured in the *New York Times*. Wolfe travels to tropical climes looking for ways to prevent pandemics from starting.

On the same day the article appeared, Wolfe's Global Viral Forecasting Initiative (GVFI) received \$11 million from Google's philanthropic arm and from the Skoll Foundation to continue the work.

During a visit to Fogarty offices before giving an NIH-wide lecture, he credited the Center with launching his career by having given him a Fogarty International Research Scientist Development award. He later won the NIH

International Research Scientist Development Award and the prestigious NIH Director's Pioneer Award.



"Nathan is a perfect example of how Fogarty's small seed money helped a young scientist flourish and leverage an initial grant into more than \$20 million from other sources," says Fogarty Director **Dr. Roger I. Glass**.

"Most epidemiologists agree—and worry—that the world is overdue for another dangerous flu pandemic," says Dr. Larry Brilliant, Executive Director of Google.org.

"The cutting-edge work of Nathan Wolfe and his network of public health stars may be one of the world's best bets to prevent the next pandemic."

Through collaborative studies in Cameroon, China, Democratic Republic of Congo, Lao PDR, Madagascar, and Malaysia, GVFI tracks emergent pandemics to their source, working to provide potentially vital months or years of advanced warning before the next HIV or SARS emerges on the global stage.

Wolfe holds the Lorry I. Lokey Visiting Professorship in Human Biology at Stanford University. He received his bachelor's degree from Stanford in 1993 and his doctorate in Immunology & Infectious Diseases from Harvard in 1998.

In its 40 years, sometimes in the wilderness of countries Americans have never heard of or in the fine-print acknowledgments of significant journal articles, the Fogarty International Center has quietly and effectively trained 5,000 researchers.

With a mission of "training the next generation of scientists to address global health needs," Fogarty makes most of its grants to projects that teach young scientists how to do world class research, and it funds both American and foreign investigators at institutions in the United States and in more than 100 countries.

"It is no longer a matter, if it ever was, of just bringing American know-how to less developed countries," says **Dr. Kenneth Bridbord**, head of the division of international training and research.

"Our grantees leave in place the administrative and medical infrastructure that will generate continuing health improvements delivered by local providers and the local scientists they train. The grantees also bring back important technical and cultural skills they could only learn abroad."

(continued on p. 7)

## Training program hailed

A team of outside reviewers has evaluated Fogarty's unique International Clinical, Operational, and Health Services Research and Training Award program as a success, citing flexibility and unusual productivity as its hallmarks.

The five-year-old program has trained 129 researchers from 18 countries in five world regions in 147 projects. ICOHRTA awards have been associated with 381 peer-reviewed articles, and grantees have contributed to public health projects in Turkey, India, Brazil, China and Vietnam.

"The variety and flexibility of research training strategies is a strength of the ICOHRTA program, and the current trend toward more training activities taking place in the partner country should be encouraged," the reviewers said.

The panel said, "Its focus on non-communicable disease and disorder research may ... be a relatively unique feature of the ICOHRTA program," the report noted, citing only three programs of its kind in the world.

The report is at <http://tinyurl.com/5gqmhcn>.



# Fogarty training ground a ‘very rich soil’

*(continued from p. 6)*

The training portfolios—ranging from the innovative Framework grants (*see pp. 8-9*), to the groundbreaking AIDS International Training and Research Program (AITRP) to the twinning of U.S. and foreign medical students in the Clinical Research Training Scholars Program—are part of what makes Fogarty different from the big-name institutes and foundations.

“They are looking for treatments and cures. We’re looking for people who’ll make those discoveries in their own countries,” says Bridbord. Beyond altruism, training people to combat both infectious and chronic diseases in regions of the greatest need is good diplomacy, he says.

The value of the Fogarty training is measured by the legion of one-time neophytes—and still idealists—who are now among the leading public health figures in their own right and dynamic individuals like **Dr. Patricia Garcia**, chief of the Peruvian National Institute of Health and principal professor of public health at the Universidad Peruana Cayetano Heredia in Lima.

She likens the Fogarty training programs to a “very rich soil,” explaining, “People, our trainees, are the seeds. The seeds, in a good soil, will eventually help you to have these plants, and if the plants are growing well, they eventually will have the fruits, and these fruits are these grants that people can get ... to (turn) the results of research into policies that will eventually improve the public health in a country. I mean, we are not a country anymore, we are not local anymore—so, globally.”

Building sustainable programs that stay in-country is one of Fogarty’s aims, and during 20 years of programs in Uganda, about 200 researchers have been trained and 10,000 workshops held, says **Dr. David Serwadda**, dean of the Makerere University public health school in Kampala.

“Whenever you train for the sake of training, you tend to lose more people, but when you train them in the setting of a research program, you tend to retain people.”



Photo by David Snyder

*A nurse delivers medication to a patient at Cambodia’s Sihanouk Hospital Center of Hope, where Fogarty funds HIV research through its AIDS International Training and Research Program.*

Haiti, the focus of early attention on the global AIDS epidemic, has seen prevalence among pregnant women and new mothers drop from 6.6 percent to 3.1 percent in 10 years, says **Dr. Jean Pape**, founder of the Haitian Study Group on Opportunistic Infection and Kaposi’s Sarcoma, partially funded by Fogarty’s pioneering AITRP.



*Courtesy: Aga Khan University  
Fogarty training programs are focused on having researchers return to and remain in their own countries to launch their careers.*

“For us in Haiti, Fogarty has been the cornerstone of the entire program,” he says. “And it has impacted national mortality in adults and in children. There is no way we would have been where we are now without this program.”

The Scholars Program matches U.S. students with foreign students and supports a year-long regimen at an institution in a low- or middle-income country.

**Krista Pfaendler**, a fourth-year medical student at the University of Pittsburgh and a former Scholar, notes that this program is unique because “you can’t really do anything in three or four months,” the maximum term of other sought-after awards.

The length and the cultural immersion not only provide research training and some clinical work, “it creates ongoing relationships that leave the window open for future collaboration,” she says.

Another program that pays dividends to foreign countries is the Global Research Initiative Program for New Foreign Investigators, which provides partial salary for foreign researchers doing work at other NIH institutes or centers, with the proviso they return home and continue their work, with Fogarty support.

With global health increasing 57 percent as a preferred concentration for public health school students in the past 10 years, the need to at least maintain current programs is self-evident, says **Dr. Peter Hotez**, president of the Sabin Vaccine Institute and a member of the Fogarty advisory board.

“Students have stars in their eyes; we risk losing an opportunity to capture this generation.”

# 'Framework' dismantles ivory silos

**I**t is one of the most enduring axioms of comedy, politics and romance: "Timing is everything." So, too, it was everything when the Fogarty International Center launched its vaunted Framework program in 2005.

The recent announcement of the third cohort of prestigious Fogarty Framework grants completes one cycle in the challenge of drawing disparate academic disciplines together in a program that has succeeded beyond its original intentions.

With global health suddenly a sought-after field of study from the undergraduate to postdoctoral level, the program is building girders of support at 31 universities by nudging faculty, who might never have crossed the quad to meet one another, to create new multidisciplinary curricula.

As a result anthropologists and engineers, JDs and MBAs, physicians and communicators are collaborating on public health projects around the world.

"Campuses have seen a dramatic surge of interest in global health," says **Fogarty Director Dr. Roger I. Glass**. "These awards have enormous impact, despite their modest size," he says. "They provide the catalyst to

opportunities."

Program director **Dr. Flora Katz** explains, "Our money was to be used to allow faculty to devote time and creativity," leaving the universities to do what they do best—teach the curriculum.

Framework is the epitome of Fogarty's mission to build capacity not only in low- and middle-income countries but among U.S. researchers and foreign scientists who come to America for training. "We want to create a pipeline of young scientists who go into global health," says Katz.

Beyond serving the student demand, Framework has resulted in an informal network of global health programs in the United States and in three foreign sites in Peru, Mexico and China. "It was meant to be catalytic, and it was. It was transformative at a time money was coming into the field," she says.

**R**ecipients call the program indispensable to their university's efforts to win more money from other sources and to provide students clamoring for global health training with foreign research experience.

*Johns Hopkins*, the oldest and largest U.S. university addressing global health issues, used its Framework



Photo by J. Boissevain  
University of Virginia undergraduate engineering students **Eric Harshfield** and **Ana Jemec** with the headmaster of a school in South Africa, examining the water purification system he set up.

The program, which combines curricula from the schools of medicine, nursing and public health, also awards travel grants to both graduates and undergraduates on a competitive basis, with matching funds raised by the university's Center for Global Health.

When Hopkins received its Framework grant three years ago, public health had become the No. 1 major among Arts & Sciences undergraduates.

"The timing was perfect," says Center director **Dr. Thomas C. Quinn**.

"It's one of the best grant mechanisms that Fogarty has ever launched for American universities," he said, noting that in contrast to other programs shared among NIH institutes and centers, "This one really has Fogarty's name written all over it."

Principal investigator **Dr. James Tielsch** says Hopkins also used the

(continued on p. 9)

*"Learners gain exposure to a wider variety of diseases and can observe the manifestations of disease both earlier and later in the course of illness than might be possible in their own countries."*

—Dr. Steven L. Kanter, editor *Academic Medicine*

transform global health programs by leveraging and enhancing existing resources, fostering innovative research collaborations and creating new foreign research training

grant not only to pull together faculty from a number of schools and departments on two different campuses but to develop courses for undergraduates.



# Building curricula for global health

(continued from p. 8)

grant to establish undergraduate courses at a nearby public university campus.

"If we want to build a constituency for global health issues in the United

States, then we have to increase awareness among the educated population," he said.

The *University of Virginia* used part of its Framework grant to develop 12 new courses across campus.

*"It's one of the best grant mechanisms that Fogarty has ever launched for American universities."*

— Dr. Thomas C. Quinn, director,  
the Johns Hopkins University Center for Global Health

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One of them, "Financing a Sustainable Future," teamed a professor of commerce and infectious diseases professor who went to Tanzania with a group of students from a variety of disciplines.

They looked into establishing a business there for the production of HIV testing kits, which are prohibitively expensive to import.

Working closely with Tanzanian students, the group created a business plan to build a factory and formed a foundation to raise seed money.

Program co-directors **Dr. Rebecca Dillingham** and **Dr. Richard Guerrant** stressed that Framework not only advances global health research, it also directly benefits individual students and faculty.

International collaboration literally bore fruit in one case, Dillingham recounts. As a result of coursework on urban agriculture in foreign countries, students presented their findings to the city council and established a consortium to reduce the costs of

locally grown food for all residents of Charlottesville.

As for faculty, Guerrant said, "Just applying for (an award) has transformed our institutions. It really is breaking us out of our silos for our own good."

The *University of California, San Diego's* **Dr. Steffanie Strathdee** notes that her Framework site is the closest U.S. city to a developing country, sharing a border with Tijuana, Mexico.

The proximity offers a unique opportunity for her students to get practical experience with global health issues, particularly the cross-boundary spread of narcotics and sexually transmitted infections.

But the larger part of the San Diego Framework is the creation of a joint doctoral program between UCSD and San Diego State University, schools that had difficult, but eventually surmountable, institutional hurdles to clear.

"Global health is so popular as a field that students heard about it through the grapevine and were applying before the ink was even dry on the announcement," Strathdee said.

*Tufts University* created a global health concentration in the MPH program, bringing together not only the medical, veterinary and engineering schools but the renowned nutrition and diplomacy schools. It quickly became the most popular concentration, says program

director **Dr. Jeffrey K. Griffiths.**

Tufts has partnerships with universities in Tanzania, Uganda and Kenya and uses an electronic library and other information technology to co-develop curricula.

"We're building capacity to share content and share discussion," says Griffiths. "Faculty have to change the way they're teaching, and students push the faculty to start using electronic means to get content up on the Internet."

In eastern Africa, where there is a dearth of research, "We sort of turned something on its head. We've been working on a network of like-minded people to create educational networks that can become research networks." He credits students for "cementing the relationships between institutions."

Planning is under way for a successor to Framework, and Fogarty's Katz says, "We don't want to lose the momentum these programs have generated on their own campuses."



*University of California, San Diego doctoral student **Asher Santos** (left) conducts water quality testing in Jamaica.*

To be eligible for a Framework grant, an institution must have involvement of at least three of its academic schools—engineering, law and public health, for example—and have a commitment at the presidential level to clear away administrative obstacles. In addition, a grantee previously must have won grants in global health.

# Framework grants awarded to 12 institutions

To help meet the rising interest in global health on college campuses, Fogarty has awarded \$4.6 million over three years to expand its network of global health education programs to include 12 additional campuses in the United States, China and Mexico.



Center Director Dr. Roger I. Glass with Mary McAndrew, daughter of the late Rep. John E. Fogarty, at the awarding of a Framework grant to Brown University.

The prestigious Framework Programs for Global Health raise awareness of global health within the academic community and support development of new curricula and degree programs that cut across departments and schools to create a pipeline for the next generation of global health researchers.

Each site will receive about \$400,000 over

three years through the flexible program that encourages each institution to develop a structure and activities that best suit its existing strengths and research capabilities.

The new grantees will join the existing network of 19 sites that have received Framework grants since the program's inception in 2005.

Two foreign projects are receiving Framework awards.

With its grant, **Mexico's National Institute of Public Health**—together with eight academic partners in North and South America—will form a training consortium for the region focused on topics of critical importance such as infectious diseases, tobacco and nutrition.

Since China faces significant reproductive health issues, **Fudan University** in Shanghai will create a teaching network to address the country's persistently high rates of maternal and child mortality, reproductive tract infections and sexually transmitted diseases.

At **Brown**, students will be offered a set of foundation courses, intensive faculty mentoring and a foreign site experience.

**Oregon Health and Science University** will build on its strengths in environmental science, cancer and neuroscience, while the **University of Texas Medical Branch at Galveston** plans to leverage its expertise in telemedicine.

**Harvard University** will join with partners in India, Tanzania and Brazil to address various aspects of nutrition and its impact on health—both under-nutrition and the emergence of obesity, diabetes and cardiovascular disease in developing countries.

Through its award, **Northwestern University** will offer its students public health study abroad programs, in collaboration with partner institutions in Mexico, China, South Africa, Uganda and France.

**Tulane University** will expand its existing relationships with sites in Peru, Mexico, Argentina, Thailand, China and Mali.

**Duke University** is planning to establish an interdisciplinary master's degree program in global health that will promote the sharing of foreign field sites among the network's members, leveraging existing relationships and fostering new research collaborations abroad.

**The University of Pittsburgh** will integrate certificate programs from four participating schools—public health, medicine, public and international affairs and law—to prepare the next generation of scientists, physicians, policy makers and lawyers to tackle global health issues.

**Ohio State University's** program will include global health courses for college-preparatory students, a minor in global health for undergraduates and an interdisciplinary specialization for graduate students.

**The University of California, San Francisco** will partner with colleagues at **UC Berkeley** to transform global health offerings in the Bay Area.

In addition to Fogarty funding, the new awards are being supported by NIH partners including the Eunice Kennedy Shriver National Institute of Child Health and

Human Development, the National Institute of Biomedical Imaging and Bioengineering, the National Cancer Institute, and the National Institute of Neurological Disorders and Stroke.

For more information: <http://tinyurl.com/4ekbmz>



Telemedicine is a specialty of the University of Texas Medical Branch, recipient of a Framework award.

Courtesy: UTMB Photo



# Got lean body mass?

**O**verweight children in Chile who were given milk instead of soft drinks showed a significant increase in lean body mass, and the boys grew taller, a pilot study conducted by a Fogarty grantee reports.

The research led by **Dr. David S. Ludwig** of Children's Hospital Boston appeared in the September issue of *The American Journal of Clinical Nutrition* and exemplifies a trend toward chronic conditions, such as obesity, becoming health problems in countries emerging from poverty.

Chile was chosen for the experiment because it has most rapidly modernized in terms of nutrition, Ludwig and his colleagues said, noting the irony that "in developed countries, and progressively in developing countries ... malnutrition often coexists with excess energy intake and leads to obesity."

In Chile, the prevalence of stunted growth in children dropped from 10 percent in 1985 to 2 percent in 2002. At the same time childhood obesity was rising from 5 percent to 18 percent.

In the randomized clinical trial that began with 98 overweight or obese boys and girls age 8 to 10, researchers provided half the sample with daily deliveries of milk products, with the proviso that the children drink three glasses a day and abstain from sugar-sweetened beverages (SSBs) like soda and fruit juice.

The other half continued to consume beverages as they had before.

After 16 weeks, the milk drinkers showed increased protein and calcium levels but less energy intake. The soda and juice drinkers continued with their usual regimen, including milk, and showed increased protein levels but no change in calcium or energy intake.

Although the researchers looked for a difference in percentage of body fat between the groups, they did not find it, and the significance of the milk drinkers showing decreased energy intake "is not readily apparent."

But they did find that "accretion of lean mass was greater in the intervention groups than in the control group ... For boys, but not for girls, height increases more in the intervention group than in the control group," the study said.

Ludwig suggested that whey and casein, the main proteins in milk, have contrasting effects when they metabolize and thus could lead to higher lean mass but no change in overall weight.

At the same time, the high sugar content of the sodas and fruit juices may cause hormonal actions that suppress creation of lean body mass.

The findings are in line with previous U.S. studies that indicate SSBs and other refined carbohydrates leave a



Courtesy: National Dairy Council®

person feeling hungrier than whole foods, like milk, with more nutrients.

The significance of these findings, Ludwig said, is, "If children don't reach their full growth potential, there is no way to compensate for that in the future ... Policy makers could take these findings as a warning sign as to the systemic effects of poor diet quality, above and beyond body weight."

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*"Effects of replacing the habitual consumption of sugar-sweetened beverages with milk in Chilean children."* Cecilia Albala, Cara B. Ebbeling, Mariana Cifuentes, Lydia Lera, Nelly Bustos and David S. Ludwig. *The American Journal of Clinical Nutrition*. Vol. 88, No. 3, 606-611, September 2008.

## New grant rules: two strikes and you're out

As of Jan. 25, 2009, NIH grant seekers will be allowed to resubmit an application only one time instead of two.

The new policy is intended to ensure earlier funding of high-quality applications and improve efficiencies in the peer review system.

"Over the past several years, the number of applications submitted each year to NIH has doubled and the number of investigators applying for grants has increased by over 75 percent, increasing stress on the system, especially when confronted with stagnating budgets," says NIH

Director **Dr. Elias A. Zerhouni**.

He said it has led to scientists spending more time rewriting applications and delays in funding.

"We found after careful analysis that eliminating the second amended application is the best way to help ensure that we fund the best science earlier," he said.

Original renewal applications that were submitted prior to Jan. 25 will be permitted two resubmissions. The new policy is available at <http://tinyurl.com/4qwabz>

## Fogarty backer Paul Rogers dies

Former Rep. Paul G. Rogers of Florida, a long-time champion of the NIH and of the Fogarty International Center, died Oct. 13 at the age of 87.

Rogers, who served in the House of Representatives with Center namesake Rep. John E. Fogarty of Rhode Island for 12 years, was chair of the House Subcommittee on Health and the Environment from 1971 until his retirement in 1979, when he joined the law firm of Hogan & Hartson.



Courtesy: Hogan & Hartson

"Paul was a friend of Fogarty," said Center Director **Dr. Roger I. Glass**. "I was able to call on him at anytime for advice."

The plaza in front of Building 1 was designated by Congress as the Paul G. Rogers Plaza in 2000.



*Disability weights, used by health policymakers to estimate cost, ought to vary depending on locale, Canadian researcher **Dr. Jüergen Rehm**, left, told NIH scientists at a Fogarty forum recently. Here he answers a question from Fogarty Director **Dr. Roger I. Glass**.*

## Best buys in global health

Top Ten lists are usually associated with David Letterman and college football. But here is a deadly serious one. The Disease Control Priorities Project offers this list of 10 things a country with few resources and high health risks can do to gain the most benefit at the least cost.

- Prevent neonatal mortality
- Ensure healthier mothers and children
- Promote good nutrition
- Reduce deaths from cardiovascular disease
- Stop the AIDS pandemic
- Stop the spread of tuberculosis
- Control malaria
- Combat tobacco use
- Reduce fatal and disabling injuries
- Ensure equal access to high-quality health care

*The list is excerpted from "Using Evidence About 'Best Buys' to Advance Global Health" by Ramanan Laxminarayan and Lori Ashford, an issues brief for policy makers, at <http://tinyurl.com/4c2dbv>*



**Dr. Manuel Saborio Rocafort** delivered the 10th Annual Lawton Chiles International Lecture at Stone House. An expert on maternal and child health care in Costa Rica, Saborio emphasized that his country's successful newborn screening program is not just a single test. "It is a system involving a chain of decisions and actions from the heel stick through to the laboratory."



# Creating cures, conservation and capacity

**S**couring the seas off southeastern Sulawesi, studying shipworms and sea snails in the Philippines, investigating the properties of Panamanian algae and growing microbes from Madagascan soils are the starting points for projects recently awarded by Fogarty on behalf of an interagency consortium.

Up to \$12 million was awarded for the four grants aimed at exploring the rich and unique flora, fauna, marine and terrestrial life of remote areas of the world in the search for cancer and mental health drugs, pest control agents and sources of energy. Integrated into that search, the teams train local scientists, support biodiversity conservation and construct benefit-sharing strategies so host countries can reap economic benefits.

Under the International Cooperative Biodiversity Groups program, more than 12,000 species of plants, animals and microorganisms have been collected and analyzed in numerous therapeutic and agriculture use areas.

The five-year awards, made to international interdisciplinary research teams that combine academic, governmental and private sector expertise are for:

- Surveys of biodiversity in the tropical forests of southeastern Sulawesi (formerly the Celebes islands) in Indonesia, a poorly studied yet highly threatened area with thousands of species of life that exist nowhere else on the planet and for the discovery of new compounds from this biodiversity to address health and bioenergy issues. (**Dr. Daniel Potter**, University of California, Davis)

- The study of marine mollusks, including shipworms and sea snails, in the Philippines that have potential for developing drugs for use against cancer, central nervous system diseases and microbial infection as well as use in creating biofuels. (**Dr. Margo G. Haygood**, Oregon Health & Science University)

- Investigating new compounds from Panamanian micro-organisms for treatment of cancer and tropical diseases, discovering new agents against agricultural pests, as well as for training local scientists, conserving the country's biodiversity and building scientific capacity. (**Dr. William Gerwick**, Smithsonian Tropical Research Institute)

- The study of marine and land based bacteria from Madagascar to stimulate biodiversity conservation, economic development and identification of potential health and crop protection agents. The international team will be looking for solutions in cancer, immunology, malaria, neurological disease, tuberculosis and a variety of crop diseases. (**Dr. David G. I. Kingston**, Virginia Tech).

The program is co-funded by the National Science Foundation, the United States Department of Agriculture, the United States Department of Energy, the National Institute of Mental Health, the National Cancer Institute, the National Center for Complementary and Alternative Medicine and the National Institutes of Health Office of Dietary Supplements.

## *Biodiversity grants in search of dietary therapies*

One of Fogarty's older programs, the International Cooperative Biodiversity Groups, is seeking new applications, this time for projects with an emphasis on finding plant life that could be developed into dietary supplements or alternative medicines.

"We anticipate making two or three new grants or extensions of up to \$600,000 a year for five years," says program officer **Dr. Josh Rosenthal**, who notes that products originally identified from plants, animals and microorganisms are the basis for about half the new chemical entities approved as drugs over the past 25 years.

"Our interest in potential supplements and nontraditional therapies derived from plants is the result of increasing consumer use of unregulated botanical substances," says Rosenthal.

Discoveries also may lead to biologically based technologies that could result in alternative fuel sources. Right now, he says, science relies on less than 1 percent

of the estimated eight-to-10 million species for improving health and "while there is a great deal of redundancy in nature, there is likely an enormous undescribed set of biologically active molecules awaiting discovery."

The biodiversity program focuses on improving health, as well as agricultural and economic development, in the low- and middle-income countries where the research will take place.

The program is managed by Fogarty, which contributes to the funding, along with the National Science Foundation, the Department of Energy and, from NIH: the National Institute of General Medical Sciences, the National Center for Complementary and Alternative Medicine and the Office of Dietary Supplements.

For application information, see <http://tinyurl.com/5mscy9>

For more on the ICBG program, see <http://tinyurl.com/6euclq>

## **Guest Opinion**

By Twalib Ngoma

### **Local approaches to cancer in Africa**

**O**ne reason that the challenge of cancer in Africa is underappreciated is the lack of population-based incidence and mortality data. Too much reliance is placed on data from the West. These data are often not useful when trying to generate compelling evidence-based guidance on how cancer in African countries can best be addressed.

Recruiting, training and retaining healthcare professionals are another problem. The situation is exacerbated when healthcare professionals migrate from rural to urban areas, move from public to private health sectors and emigrate from Africa to richer countries.

Three types of research — basic, epidemiologic and interventional — are relevant to caring for cancer patients, and each can, at least in principle, be carried out in Africa. Yet research is still considered a luxury in many African countries.

For epidemiological research, Africa needs cancer data registries, whether these are broad regional and national cancer registries, or more limited study-specific registries intended to measure the outcomes and effects of specific interventions.

Africa also requires better needs assessments for tailoring treatment to specific health care settings. Most cancers seen in Africa have different causes, epidemiology and biological behavior compared with those seen in the western world. So Africa cannot just extrapolate knowledge and experience from the West.

Instead, Africa needs local, effective and sustainable research. If this research is not relevant to rich countries, it may be unrealistic to expect them to finance it.

Researchers must also remember that, since African countries have different levels of resources, populations, prevalence of disease and other factors, each country will require different solutions for the same cancer problems.

The good news is that the commonest cancers in Africa are caused by viruses, against which new interventions—namely vaccines—are being developed. But the high costs of these vaccines mean that most African countries cannot afford to buy them.

Africa needs concerted efforts by the donor and international community to make these vaccines accessible to those Africans who need them most.

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*Twalib Ngoma is Executive Director of the Ocean Road Cancer Institute, Dar es Salaam, Tanzania. The views expressed here are not necessarily those of the Fogarty Center, the NIH or the U. S. Department of Health and Human Services.*

## *Global Health Briefs*

### **WHO decries health inequities**

WHO's *World Health Report 2008* finds "striking inequities in health outcomes, in access to care, and in what people have to pay for care." The report says the difference in life expectancy between the world's richest and poorest countries is more than 40 years. For the full report, <http://tinyurl.com/4w7w9y>.

In a previous report, a WHO commission concluded "social injustice is killing people on a grand scale." <http://tinyurl.com/4b4l6n>

### **World malaria report cites progress**

The advent of long-lasting insecticide-treated nets and artemisinin-based combination therapy, plus a revival of support for indoor residual spraying of insecticide, presents a new opportunity for large-scale malaria control, the World Health Organization reported recently. Still, half the world's population remains at risk and an estimated 881,000 people died from malaria in 2006. <http://tinyurl.com/3mr9z2>

### **Circumcision effects unclear**

An evidence review of 15 studies on circumcision shows that while it works to reduce the spread of HIV between men and women, there is no evidence it works between men and men. Studies in Africa, where the virus is spread mostly by heterosexual engagement, show that circumcision may reduce the risk by more than half.

In the current review on men having sex with men, there was a 15 percent reduction in HIV risk, but it was deemed statistically insignificant. <http://tinyurl.com/4wtja7>

### **Author argues for multilingual reviews**

Systematic reviews of evidence in public health and epidemiology should be published in the world's major languages, argues Dr. Isaac C-H Fung of London's Imperial College in an essay in *Emerging Themes in Epidemiology*.

The commentary, along with other articles on the subject can be found at <http://tinyurl.com/3uz99k>

### **HIV risk for Asian migrant women**

The U.N. Development Program has issued a report calling for immediate attention to the HIV risks of Asian migrant women in Arab countries. The women generate economic benefits to both their countries of origin and to their host countries but are vulnerable to HIV because of unsafe conditions under which they migrate and live, the report said. The report can be found at <http://tinyurl.com/4ly65w>



# PEOPLE

## MacArthur “genius” has Fogarty ties



**Dr. Wafaa El-Sadr**, a key figure in Fogarty's AIDS International Training and Research Program affiliation with Columbia University, was awarded a \$500,000 grant by the MacArthur Foundation.

Popularly known as a “genius grant,” the money is given without strings to scientists, artists and others who have the “creativity, originality and potential to make important contributions in the future.”

MacArthur Foundation

El-Sadr is an infectious disease specialist who serves on AITRP's scientific advisory committee and who was an investigator in the Fogarty-funded Centre for the AIDS Programme of Research in South Africa. She also specializes in tuberculosis, and, in addition to her professorship at Columbia, serves as chief of the Division of Infectious Diseases at Harlem Hospital Center.

## BU honors Fogarty guest researcher

**Dr. Yesim Tozan**, a guest researcher in Fogarty's Division of Epidemiology and Population Studies, has won a \$50,000-a-year Peter Paul Career Development Professorship for three years from Boston University, where she is an assistant professor of international health at the School of Public Health.



Previously, Tozan was with the Disease Control Priorities Project involved in studying the cost-effectiveness of a childhood antimalarial treatment, rectal artesunate, and on the use of DDT for malaria control. She also was a lead author of the U.N. Millennium Project report on malaria.

## NIAAA's Li retires; interim chief named



**Dr. Ting-Kai Li**, (left) director of the National Institute on Alcohol Abuse and Alcoholism since November 2002 and a member of the Fogarty Advisory Board is retiring from federal service.



**Dr. Kenneth R. Warren**, now the deputy, will serve as acting director while a search is conducted for Li's successor.

## Keep experts home, says Africa expert



Courtesy:  
University of  
Capetown

To keep promising young researchers from leaving for better jobs in the United States and Great Britain, African universities must develop a “critical mass” of expertise and scientific resources at home, says **Dr. Marian Jacobs**, dean of health sciences at the University of Cape Town in South Africa.

She spoke before staff from Fogarty and other institutes and centers with interests in African research.

## Post notes surge in global health studies

The *Washington Post* recently noted in a front page article the new popularity of global health courses on college campuses. <http://tinyurl.com/3rwsfw>

Among those quoted was **Dr. James Coates**, head of the UCLA Program on Global Health and a long-time Fogarty grantee. “It took something like HIV/AIDS—because it is so lethal and now that it is so treatable—to capture our attention and make us realize that there were such inequities in the world,” he said.



## Grantee cited by NIDA for mentoring

**Dr. Linda B. Cottler**, a grantee of Fogarty's International Clinical, Operational, and Health Services Research and Training, program was honored recently by the National Institute on Drug Abuse for excellence in mentoring mental health trainees in India. NIDA is a partner with Fogarty in the program.



Cottler, a professor at Washington University, was cited as “an effective and motivating teacher, creating unique resources to prepare junior scientists at home and abroad.”

## HHMI, Harvard name new executives

The Howard Hughes Medical Institute named biochemist **Dr. Robert Tjian** (left) of the University of California, Berkeley, as its new president as of April 1.



Photo ©2008 by  
Barbara Ries

**Dr. David Korn**, chief scientific officer at the Association of American Medical Colleges, has been named vice provost for research at Harvard.



# FUNDING OPPORTUNITIES

|  |   |                   |  |
|--|---|-------------------|--|
| International Cooperative Biodiversity Group (ICBG)                            | Joshua Rosenthal, Ph.D.<br>joshua_rosenthal@nih.gov | November 20, 2008 | Discovers and promotes development of plants, animals and micro-organisms and their molecular constituents toward human health therapeutic agents. May also incorporate microbial research toward energy applications.   |
| Ecology of Infectious Diseases (EID)   | Joshua Rosenthal, Ph.D.<br>joshua_rosenthal@nih.gov | December 10, 2008 | Supports development of predictive models and discovery of principles governing transmission dynamics of infectious disease agents. Investigators are encouraged to include participation of epidemiologists, physicians, veterinarians, social scientists, medical entomologists, virologists, microbiologists, parasitologists etc.  |
| Global Research Initiative Program, Basic/Biomedical Sciences (GRIP-BB) (AIDS) | Aron Primack, M.D.<br>primacka@mail.nih.gov         | December 18, 2008 | Individuals with at least two years of research training experience: under a Fogarty-supported research training grant, through the NIH Intramural Visiting Fellows Program or the International Neuroscience Fellowship; or one year and one subsequent year of mentored research in the United States or abroad; or foreign researchers from low- and middle-income countries mentored under NIEHS R01, R37, and P01 programs. |
| International Research Scientist Development Award                             | Barbara Sina, Ph.D.<br>barbara_sina@nih.gov         | January 16, 2009  | Postdoctoral biomedical, epidemiological, clinical, social and behavioral scientists in the formative stages of their careers to conduct research in developing countries.   |
| International Research Collaboration—Basic Biomedical Research Award           | Kathleen Michels, Ph.D.<br>FIRCA@nih.gov            | January 28, 2009  | Scientists with an active NIH-funded research grant and who want to initiate/extend international research collaborations in biomedical research.  |

## Global Health Matters

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## Fogarty co-sponsors symposium

TOPIC: "The Role of Science in Advancing Global Health Diplomacy."

DATE: November 12, 2008

TIME: 9 a.m. – 1 p.m.

PLACE: Georgetown University Law Center's Hart Auditorium  
600 New Jersey Ave., NW

BY: Fogarty International Center, Georgetown University,  
O'Neill Institute for National and Global Health Law

RSVP: No cost, but reservations are required

<http://tinyurl.com/4hv9mz>