Pfizer Initiative in International Health

Advisory Board Summary

Pfizer Initiative in International Health Advisory Board

Joe Feczko, MD	Jim Hughes, MD	Tom Quinn, MD
Pfizer, Inc	Emory University	Johns Hopkins University
New York, NY	Atlanta, GA	Baltimore, MD

Advisory Board Meeting Attendees and Presenters:

W. Michael Scheld, MD, Director, University of Virginia Pfizer Initiative in International Health

Richard Guerrant, MD, Director, University of Virginia Center for Global Health

Erik Hewlett, MD, Senior Associate Dean for Research, University of Virginia School of Medicine

Rebecca Dillingham, MD/MPH, Associate Director, University of Virginia Center for Global Health

Jesus E. Sevilleja, MD, MPhil. – University of the Philippines – Manila, Department of Clinical Epidemiology

Edgar Musie, MSc – University of Venda, Department of Microbiology

Lufuno Mavhandu, MSc – University of Venda, Department of Microbiology

Hua Cheng, MD/PhD – Anhui Medical University, Div. of Research on Virology and Immunology, National Center for AIDS/STD Control and Prevention, Chinese Center for Disease Control and Prevention

Shuiping Liu, PhD – Central South University Xiang-Ya School of Medicine, Department of Microbiology and Immunology

Japheth Opintan, MSc – University of Ghana Medical School, Microbiology Department

Eda Rosabina Palacios La Torre, RN – Socios En Salud Sucursal, Peru

Cheryl Lynn Horton, MD candidate – University of Virginia School of Medicine

Rebecca Burke, MD candidate – University of Virginia School of Medicine

Pfizer Initiative in International Health
Advisory Board Meeting

Agenda
Saturday, November 22, 2008
8:00 – 11:00AM

8:00AM Welcome – Erik Hewlett, MD, Senior Associate Dean for Research, UVa School of Medicine

8:05AM Introduction to the Center for Global Health – Richard Guerrant, MD, Director, University of Virginia Center for Global Health

8:15AM Overview of the Pfizer Initiative in International Health at the University of Virginia – W. Michael Scheld, MD, Director, UVa Pfizer Initiative in International Health

9:00AM International Fellows:

Jesus E. Sevilleja – The Philippines
University of the Philippines – Manila, Department of Clinical Epidemiology

Edgar Musie – South Africa
University of Venda, Department of Microbiology

Lufuno Mavhandu – South Africa
University of Venda, Department of Microbiology

Hua Cheng – China
Anhui Medical University, Div. of Research on Virology and Immunology, National Center for AIDS/STD Control and Prevention, Chinese Center for Disease Control and Prevention

Shuiping Liu – China
Central South University Xiang-Ya School of Medicine, Department of Microbiology and Immunology
Japheth Opintan – Ghana
University of Ghana Medical School, Microbiology Department

Eda Rosabina Palacios La Torre – Peru
Socios En Salud Sucursal, Peru

9:45AM Pfizer Initiative in International Health Scholar Presentation: Management of severe sepsis with the assistance of patient attendants and an investigation into mechanisms of pathogenesis at a Ugandan national and a referral hospital – Cheryl Lynn Horton and Rebecca Burke, UVa School of Medicine, 4th Year

10:00AM Executive Session

The Pfizer Initiative in International Health at the University of Virginia

Overview

The Pfizer Initiative in International Health (PIIH) at the University of Virginia is allowing us to fulfill our goal of building resources, resolve and capacity to meet some of the gravest healthcare and human challenges today.

Under the direction of Dr. W. Michael Scheld in the Division of Infectious Diseases and International Health and building on the Center for Global Health research and administrative infrastructure, the Pfizer Initiative is advancing an exchange program of post-doctoral fellows and students between the University and multiple international partners to conduct research on global health issues.

Since its initiation in 2004, the Pfizer Initiative continues to strengthen and diversify its role in foundational support for innovative infectious disease training, research and opportunities for collaboration with international sites. PIIH has strengthened connections with international research institutions, UVa research institutions and faculty while providing substantive support to students in the School of Medicine, the School of Law, and the College of Arts and Sciences. The support from Pfizer translates directly to the development of emerging researchers, professionals and students who approach infectious disease with the global perspective required.

PIIH Director, Dr. W. Michael Scheld, in the Division of Infectious Diseases and International Health, is leading mentorship of pre- and post-doctoral fellows and students who are conducting research projects at the University and abroad. Through this critical intensive mentoring and training program, PIIH advances its primary program goal of fostering and enhancing bidirectional research training for treating infectious diseases.

Pfizer Initiative in International Health Fellows

International and UVa-based fellows are finding the drive and the resources to make an impact on the struggle to treat and prevent devastating infectious disease. As UVa-based fellows are immersed in long-term research efforts and work side-by-side with researchers, physicians, health practitioners in countries such as Uganda and Guyana, their perspective and their abilities expand. Talented researchers from developing areas, acutely aware of the cost and debilitation of disease, have made extensive use of the resource-rich environment at the University of Virginia. This bidirectional

exchange enables highly developed and highly relevant research training. Fellows in each circumstance describe the experience as transformative and irrevocable.

To date, Pfizer has provided full or co-support to 16 international fellows from established or developing collaborative sites including institutions in the Philippines, Tanzania, Ghana, Peru, Kenya, China, South Africa, Brazil, Uganda and Thailand. Additionally, 6 junior faculty, fellows, or medical residents have conducted research abroad, often providing critical assistance in site development and capacity building, in Uganda, Guyana, South Africa and Botswana.

Pfizer – Center for Global Health Scholar Award in Infectious Disease

The Pfizer-CGH Scholar Award in Infectious Disease promotes rigorous scholarship, innovative research inquiries and international exposure for University of Virginia medical, graduate and undergraduate students. Pfizer-CGH Scholars in Infectious Disease are engaging faculty mentors and seeking guidance from current fellows as they plan experiences in collaborating sites abroad. This scholar award is intended to foster an understanding of the social and ethical implications of health care imbalances between developed and less developed countries through the support of research with service and experiential learning opportunities. The award is a critical mechanism in the ongoing effort to encourage a future generation of health care professionals to become globally aware and socially responsible by promoting the academic and professional development of student leaders in the field of global health.

To date, the Pfizer-Center for Global Health Scholars number 35 and they have worked in countries including Rwanda, Peru, Tanzania, Uganda, Brazil, Thailand, Guatemala, South Africa, Zambia, Cameroon, and India.

Additionally, PIIH co-supported relevant student work conducted in related scholar programs. To date, 27 scholars in the following programs have received Pfizer Initiative support.

CGH-University Scholars

The University of Virginia's Center for Global Health has established the CGH-University Scholar Awards to encourage UVa students to design and carry out cross-disciplinary projects in global health. Health issues can be approached from a broad range of disciplines including politics, biology, economics or foreign affairs. Student proposals which incorporate service learning are particularly

encouraged. Multiple scholars, whose work has related specifically to infectious disease, have been supported since 2005 in this program.

Dean's/CGH Scholar Award in Medicine

The Dean's Center for Global Health (formerly the Dean's Geographic Medicine Scholarship) provides funds for University of Virginia 4th year medical students who have completed their clinical clerkships to engage in an international elective experience in a developing economy. Students interested in international health or research experiences are encouraged to explore existing or potential collaborations supported by the Center for Global Health and the Pfizer Initiative in International Health with Brazil, Ghana, Uganda, China, and South Africa. Scholars who focus on ID specifically are eligible for support by the Pfizer Initiative.

Fogarty International Clinical Research Scholars Program - Overseas Fellowships in Global Health and Clinical Research

The National Institutes of Health's (NIH) Fogarty International Center (FIC) supports one-year clinical research training experiences for graduate-level U.S. students in the health professions to work with a team of mentors and colleagues on important issues that advance global health in developing areas. This national award is a competitive opportunity for highly motivated individuals to experience mentored research training at top-ranked NIH-funded research centers in Africa, Asia, and the Americas.

With collaborative support from the Pfizer Initiative, the most recent UVa recipient of the Fogarty Fellowship was able to spend one year at the Federal University of Ceará in Fortaleza, Brazil.

New scholar applicants who are pursuing other scholarship awards at the University of Virginia are seeking mentorship from Dr. Scheld and opportunities at multiple collaborative sites. Highly motivated, talented students are seeking involvement in the global response to HIV/AIDS and other infectious diseases.

As with the fellows sustained by the Pfizer Initiative, the benefits of this support extend beyond the time of the award and the work of individuals. Students participating in these experiences are often

changed markedly and their subsequent academic and professional activities are invested with a commitment to global health.

The Pfizer Initiative in International Health has accomplished a great deal and established a foundation for more promising and rewarding advances.

Pfizer Initiative in International Health at the University of Virginia

Fellows Comprehensive Summary

2005-Present

Fellow	Degree	Country and Affiliation	Research Interest
Gibson Kibiki	MD/PhD	Tanzania (Kilimanjaro Christian Medical Center)	Tuberculosis/HIV co-infection; MTB gene expression: using Bronchoalveoalr Lavage fluid in Tb infected (with or without HIV infection).
Amidou Samie	Msc, Microbiology/PhD, Microbiology	South Africa (Univ. of Venda)	Molecular Characterization of Entamoeba histolytica and Campylobacter and Immunomodulatory activities of Medicinal Plants; Molecular epidemiology and characterization of emerging enteric bacterial and parasitic pathogens
Raul V. Destura	MD, FPCP, DPSMID	The Philippines (University of the Philippines – Manila, National Institutes of Health, The Philippines)	Emerging infectious disease endemic in the Philippines
Melissa Soares Medeiros	MD; PhD candidate	Brazil (Federal University of Ceará)	HIV Molecular Virology and Drug Development
Rebecca Kightlinger	DO	USA to Guyana (UVa Obstetrics and Gynecology)	Incidence of cervical cancer and HIV among Amerindian women of the remote interior of Guyana.
Shevin Jacob	MD/MPH	USA to Uganda (Infectious Diseases Fellow, Division of Allergy and Infectious Diseases University of Washington (current) Formerly a medical resident with the University of Virginia.)	Management and Investigation into the Pathogenesis of Severe Sepsis at Mulago National and Masaka Regional Referral Hospitals & Fluid Resuscitation of Severely Septic Patients Hospitalized in a National and Regional Referral Hospital in Uganda

Fellow	Degree	Country and Affiliation	Research Interest
David Meya (working in conjunction with Shevin Jacob, MD)	MD	Uganda (Makerere University)	Management and Investigation into the Pathogenesis of Severe Sepsis at Mulago National and Masaka Regional Referral Hospitals & Fluid Resuscitation of Severely Septic Patients Hospitalized in a National and Regional Referral Hospital in Uganda
Edgar Musie	MSc, Microbiology; PhD candidate	South Africa (Univ. of Venda)	Immunomodulation of Inflammation Affects Progression of Pneumococcal Infection in a Murine Model
Margaret Nduta Githae	RN, Community Health	Kenya (Great Lakes University of Kisumu)	Effectiveness of Community Based Information System (CBIS) in increasing the Capacity of the Community to advocate for Improved Services. In Nyando District-North Nyakach, Nyanza Province, Kenya
Hua Cheng	MD; PhD, Epidemiology	China (Anhui Medical University, Div. of Research on Virology and Immunology, National Center for AIDS/STD Control and Prevention, China Center for Diseases Control and Prevention (China CDC)	Public Health support in Anhui China, HIV/AIDS; HIV-1 phenotypic drug resistance assay based on HIV-1 packaging system
Christopher C. Moore	MD	USA to Uganda (UVa, Infectious Disease and International Health)	Management and Investigation into the Pathogenesis of Severe Sepsis at Mulago National and Masaka Regional Referral Hospitals & Fluid Resuscitation of Severely Septic Patients Hospitalized in a National and Regional Referral Hospital in Uganda & Epidemiology and diagnosis of meningitis in Uganda

Fellow	Degree	Country and Affiliation	Research Interest
Gregory Sawin	MD	USA – Botswana (UVa, Family Medicine)	Current Practices For Evaluation And Treatment Of Early Childhood Diarrhea And Cognitive Development In Botswana.
Jesus Emmanuel Allas Dalope Sevilleja	MD; MPhil., Epidemiology	The Philippines (University of the Philippines – Manila)	Imunodiagnosis on core parasites: Cryptosporidum, Giardia and Entamoeba; Prevalence and genotype distribution of enteric pathogens from stool specimens in the Philippines; Neonatal murine model of enteroaggregative Escherichia coli infection
Ace Bryan Cabal	Bachelor of Science in Microbiology Post-Pfizer Degree: Master of Science in Public Health Maj. in Infectious Disease Immunology	The Philippines (University of the Philippines – Manila)	Enteroaggregative *Escherichia coli* (EAEC) infection and *Cryptosporidium parvum;* 1. Development of Animal Model for the study of Enteroaggregative *Escherichia coli* Infection. 2. Testing potential vaccine candidate to Cryptosporidiosis.
Eda Rosabina Palacios La Torre	RN, Community Health	Peru (Socios En Salud Sucursal Peru)	Multi Drug Resistant TB, Social Factors in Medicine
Suporn Foongladda	DVM; M.Sci, PhD Pathobiology	Thailand (Sririraj Hospital, Mahidol University)	TB and HIV/AIDS; Transcriptional profile study of M. tuberculosis cells in sputum of HIV, non-HIV infected patient and in culture isolates.
Lufuno Grace Mavhandu	MSc, Microbiology; PhD candidate	South Africa (University of Venda)	Infectious Disease, specifically HIV/AIDS; drug susceptibility phenotyping system for HIV-1 Clade C viruses
Tracy Bercu	MD	USA – Uganda (UVa Medical Resident)	HIV/AIDS, sepsis pathophysiology
Japheth Opintan	PhD candidate, Microbiology	Ghana (University of Ghana Medical School, Microbiology Department)	Antibiotic resistance, diarrheal disease; Epidemiology And Genetic Basis For Antibiotic Resistance Among Diarrhoeagenic Escherichia Coli In Ghanaian Children Less Than Five Years

Fellow	Degree	Country and Affiliation	Research Interest
Shuiping Liu	PhD, Microbiology and Immunology	China (Department of Microbiology and Immunology, Central South University Xiang-Ya School of Medicine)	Novel cellular Rev interaction partners; Mechanism of efficient inhibition of HIV-1 by antisense RNA
Luther Bartelt	MD	USA - South Africa (UVa, Medical Resident)	Immune response to Cryptosporidium parvum and C. hominis-specific antigens
Sande Obondo James	MBChB, Microbiology	Uganda (Makerere University)	HIV/AIDS, highly active antiretroviral therapy (HAART)

International Fellows

Fellow

Gibson Kibiki

Degree/Pre-Award & Post/Award

MD/PhD

Prior to Pfizer award I was an MD, after the award the study was one of several studies which resulted into qualifying for PhD i.e. now I am an MD, PhD.

Dates of support

9/2005 – 12/2005

Country and Affiliation

Tanzania (Kilimanjaro Christian Medical Center)

Research Interest

Tuberculosis/HIV co-infection

Descriptive Title of Project(s)

MTB gene expression: using Bronchoalveoalr Lavage fluid in Tb infected (with or without HIV infection).

Co-funding leveraged by the Pfizer Initiative in International Health

UVa mentors & co-supporting departments or centers

Dr. Eric Houpt, MD

Associate Professor of Medicine, Department of Medicine

Division of Infectious Diseases and International Health

Abstracts, Presentations, Publications

GS Kibiki, LC Myers, CF Kalambo, Hoang SB, Stoler MH, Stroup SE, Houpt ER. Bronchoalveolar neutrophils, interferon gamma-inducible protein 10 and interleukin-7 in AIDS-associated tuberculosis. Clin Exp Immunol. 2007; 148(2):254-9. 2. Kibiki G, Kalambo C, Stroup S, Houpt E. Local Immune response in atypical pulmonary tuberculosis among Tanzanian AIDS patients. Chest. 2006; 130(4): 94S.

Ferwerda B, Kibiki GS, Netea MG, Dolmans WM, van d, V. The toll-like receptor 4 Asp299Gly variant and tuberculosis susceptibility in HIV-infected patients in Tanzania. AIDS 2007 June 19;21(10):1375-7.

Kibiki GS, van d, V, Geurts-Moespot A et al. Serum and BAL macrophage migration inhibitory factor levels in HIV infected Tanzanians with pulmonary tuberculosis or other lung diseases. Clin Immunol 2007 April;123(1):60-5.

Kibiki GS, Beckers P, Mulder B, Arens T, Mueller A, Boeree MJ, Shao JF, Van der Ven AJ, Diefenthal H, Dolmans WM. Aetiology and presentation of HIV/AIDS-associated pulmonary infections in patients presenting for bronchoscopy at a referral hospital in northern Tanzania.. East Afr Med J. 2007 Sep;84(9):420-8. PMID: 18074960 [PubMed - in process]

Kibiki GS, Mulder B, van der Ven AJ, Sam N, Boeree MJ, van der Zanden A, Dolmans WM. Laboratory diagnosis of pulmonary tuberculosis in TB and HIV endemic settings and the contribution of real time PCR for M. tuberculosis in bronchoalveolar lavage fluid.
Trop Med Int Health. 2007 Oct;12(10):1210-7. PMID: 17956503 [PubMed - indexed for MEDLINE]
Kibiki GS, Mulder B, Dolmans WM et al. M. tuberculosis genotypic diversity and drug susceptibility pattern in HIV-infected and non-HIV-infected patients in northern Tanzania. BMC Microbiol 2007;7:51.

Kibiki GS, Thielman NM, Maro VP, Sam NE, Dolmans WM, Crump JA. Hookworm infection of the duodenum associated with dyspepsia and diagnosed by oesophagoduodenoscopy: case report. East Afr Med J 2006 December;83(12):689-92.

Stroup SE, Roy S, Mchele J, Maro V, Ntabaguzi S, Siddique A, Kang G, Guerrant RL, Kirkpatrick BD, Fayer R, Herbein J, Ward H, Haque R, Houpt ER. Real-time PCR detection and speciation of Cryptosporidium infection using Scorpion probes. J Med Microbiol 2006, 55:1217-22.

Led in full or in part to abstracts:

Blandina T*, Kinabo G, Swai M, Shao J, Mchele J, Henderikxm M, Mulder B, Houpt E, Tolboom J, Schimana W. Positive effect of Cotrimoxazole prophylaxis in HIV-infected children in Kilimanjaro Tanzania, Conference on Retroviruses and Opportunistic Infections #705, 2/07.

Stroup Se, Roy S, Mchele J, Maro V, Ward H, Herbein J, Haque R, Houpt E*. Species-specific Real-time PCR for Cryptosporidium in Stool Using Scorpion probes. American Society for Microbiology, Orlando, FL 05/06. Poster.

Kisenge P, Hawkins A*, Maro V, Mchele J, Swai N, Houpt E. Low CD4 count plus coma predicts cryptococcal meningitis in Tanzania, American Society for Tropical Medicine and Hygiene, 11/06, Poster.

Stroup S, Haque R, Mchele J, Ward H, Maro V, Houpt E*. Real time PCR for Cryptosporidium species using Scorpion probes, American Society for Tropical Medicine and Hygiene, Washington, D.C., 12/05.

Maro V, Taniuchi M, Tongjai S, Stroup S, Swai N, Maro A, Kimaro E, Kibiki G, Shao J, Houpt, E. Multiplex Detection of Enteropathogens in a Tanzanian AIDS Population. Infectious Diseases Society of America/ICAAC 2008, Washington, D.C., 10/08. Poster.

Kibiki G*, Myers L., Stoler M., Kalambo C., Stroup S., Houpt E. Bronchoalveolar IP-10 and IL-7 in AIDS-associated Tuberculosis. Keystone Symposia, March 2007.

Led in full or in part to pending grants:

NIH 1D43TW008270-01 "Global Infectious Disease Research Training Program Award" (PI Houpt/Kibiki).

Career Highlights related to the support of PIIH

Since this award we have built a strong collaboration with UVa and especially with Dr. E. Houpt. We have written several projects/study protocols together and applied for funding. We are establishing a research team at KCMC that will be able to benefit from the UVa experience (esp. from Dr. Houpt's lab).

I gained experience that allowed me to write grant applications (e.g. one on capacity building and Research recently submitted to NIH; written together with Dr Eric Houpt). I am supervising PhD students and coordinating research at KCMC and also I am a Deputy Director of a Clinical Trial consortium of east Africa (involving five countries).

Fellow

Raul V. Destura

Degree/Pre-Award & Post/Award

Pre-Pfizer: Doctor of Medicine Diploma, Internal Medicine Diploma, Infectious Diseases Post-Pfizer: Research Fellow, Infectious Diseases and International Health

Dates of support

1/2002-12/2004

Country and Affiliation

The Philippines (University of the Philippines – Manila)

Research Interest

Emerging Infectious Disease

Descriptive Title of Project(s)

Quantifying Cryptosporidium infection by Fluorescence in situ Hybridization (FISH), a method that labels specific nucleic acid sequences inside intact cells and uses fluorescently labeled oligonucleotide probes targeted to species-specific sequences of the 18s rRNA • Combining indirect immunofluorescence assays, flow-cytometric analysis and real-time PCR to develop a Rapid Quantification Model for Cryptosporidium • Analyzing Human Cytokine Gene Expression Microarray of Cryptosporidium infected cells • Initiating a Low-shear Modeled Microgravity Environment (Organoid) system for the first time at UVa, which uses cells cultured in specialized ground-based bioreactors designed to simulate aspects of weightlessness in the laboratory similar to that found in certain areas of the body like in utero, and in the protected environment between the brush border microvilli of epithelial cells, which is relevant to that encountered by numerous microbial pathogens and commensals during their normal life cycles in the gastrointestinal, respiratory and urogenital tracts. These human Organoids are used as an alternative to animal models • Testing the antibiotic susceptibility profile of Helicobacter pylori strains from the Philippines to gain information and direct the applicability of recommended treatment regimens and management of Filipino cases, as there was no published data on the culture and local susceptibility pattern of Helicobacter pylori in the Philippines.

Co-funding leveraged by the Pfizer Initiative in International Health

Primary support provided by the NIH Global Infectious Disease Research Training grant.

UVa mentors & co-supporting departments or centers

Richard L. Guerrant, MD
Professor of Internal Medicine
Director of the Center for Global Health
Department of Medicine
Division of Infectious Diseases and International Health

Abstracts, Presentations, Publications

Detection of epithelial-cell injury, and quantification of infection, in the HCT-8 organoid model of cryptosporidiosis. Alcantara Warren C, Destura RV, Sevilleja JE, Barroso LF, Carvalho H, Barrett LJ, O'Brien AD, Guerrant RL. J Infect Dis. 2008 Jul 1;198(1):143-9.

Clostridium difficile toxin A induces intestinal epithelial cell apoptosis and damage: role of glutamine and alanyl-glutamine on toxin A effects. Gerly A.C. Brito, MD, PhD, Benedito Carneiro-Filho, MD, Reinaldo B. Oriá, DVM, PhD, Raul V. Destura, MD, Aldo A.M. Lima, MD, PhD and Richard L. Guerrant, MD. Digestive Diseases and Science 2005 Jul;50(7):1271-8.

Laboratory Diagnosis and Susceptibility Profile of Helicobacter pylori infection in the Philippines. Destura RV, Labio ED, Barrett LJ, Alcantara C, Daez, MLO, Gloria V. and Guerrant RL. Ann Clin Microbiol Antimicrob 2004 Nov. 16; 3(1):25.

Oral Presentations

Venue: Center for Global Health, University of Virginia, School of Medicine
Charlottesville, Virginia, USA, April 28, 2005 Research Capacity Building in a Developing Country: Trials and Challenges"

Venue: Mid-Atlantic Regional Center of Excellence (MARCE) in Biodefense Research, Arlie House, Washington DC, November 4-5, 2004.

Quantifying Cryptosporidium parvum infection using fluorescence in situ hybridization (FISH) in a cell culture model

Combining direct double-immunofluorescence staining and flow-cytometric analysis for quantifying Cryptosporidium parvum infection in a cell culture model

Poster Presentations

Venue: Infectious Diseases and Biodefense Research Day, University of Virginia School of Medicine, April 27, 2005. (Winner: Best Abstract Presentation)

A Three-Dimensional HCT-8 Organoid Model of Cryptosporidial Infection
Cirle Alcantara1,3, Raul V. Destura1,3, Jesus Emmanuel Sevilleja1,3, Humberto Carvalho2, Leah J. Barrett3, Alison D. O'Brien2 and Richard L. Guerrant3
1National Institutes of Health Philippines, Manila; 2Uniformed Services University of the Health Sciences, Maryland, USA; 3Center for Global Health, University of Virginia School of Medicine, Charlottesville USA.

Venue: Infectious Disease Society of America, Boston, MA, USA Sept 30-Oct. 5 2004 (Awardee: IDSA Travel Award for Excellence in Research, 2004.)

Roles Of Arginine And Zinc On Cell Migration And Proliferation In Intestinal Epithelial Cell Injury Repair. Raul V. Destura, James-Amoah Dankwa, Gerly A.C. Brito, Oluma Y. Bushen, Relana Pinkerton, Leah J. Barrett and Richard L. Guerrant.

Venue: International Conference on Antimicrobial and Chemotherapy (ICAAC) Meeting. Washington DC, October 30-November 1, 2004.

Laboratory Diagnosis and Susceptibility Profile of Helicobacter pylori in the Philippines. Destura RV, Labio ED, Barrett LJ, Alcantara C, Daez MLO, Gloria V and Guerrant RL. Ann Clin Microbiol ANtimicrob 2004 Nov. 16; 3(1):25.

Venue: Abstract Presented and Co-presented at the International Consortium in Tropical Disease Research (ICTDR), May 18-20, 2004, Lister Hall Auditorium, National Institute of Health, Bethesda, Maryland.

Effect of Arginine and Glutamine on Intestinal Epithelial Cell Injury Repair. Destura RV, Brito GA, Dankwa JA, Bushen OY and Guerrant, RL.

Effect of Zinc on Migration of Injured IEC-6 cells. Dankwa JA, Destura RV, Bushen OY, Barrett LJ and Guerrant RL.

Long-term Impairment of Cognitive and Executive Function Following Early Childhood Diarrhea: Impact, Determinants and Potential Solutions. Oria, R., Patrick P., Brito GC, Destura RV, Dankwa JA, Lima AA and Guerrant RL.

Career Highlights related to the support of PIIH

Leader in the process of rejuvenating and reinvigorating the Institute of Molecular Biology and Biotechnology (IMBB) at the National Institutes of Health – Current efforts focus on advancing its endeavors dedicated to the improvement of human health. Its ongoing projects are divided into 4 major areas: (1) Molecular Diagnostic test development, (2) Avian IgY Technology for infectious disease diagnostics and Therapeutics, (3) Immunonutraceutical research for improvement of host-response to diseases and (4) Upgrading Research Infrastructure.

2008: Outstanding Young Scientist of the Philippines given by the National Academy of Science and Technology

2007: Model Physician Awardee for Leadership in Innovation, The Medical City.

2006: NAST-DuPont Talent Search for Young Scientist in the Philippines (Citation in Infectious Diseases), National Academy of Science and Technology, Philippines.

2004:

1. Bill and Melinda Gates Travel Scholarship for 2005 Keystone Symposia Conference. X6: Drugs Against Protozoan Parasites: Target Selection, Structural Biology and Medicinal Chemistry. April 9, 2005-April 13, 2005, at the Copper Mountain Resort, Copper Mountain, Colorado, USA.

2. Infectious Disease Society of America Travel Award for Excellence in Research Abstract, Boston Ma., USA, Sept. 30-Oct. 5, 2004.

Fellow

Amidou Samie

Degree/Pre-Award & Post/Award

Msc, Microbiology/PhD, Microbiology

This project was part of my PhD. After the project I wrote my thesis and completed my PhD

Dates of support

8/2006 – 8/2007

Country and Affiliation

South Africa (University of Venda)

Research Interest

Molecular Characterization of Entamoeba histolytica and Campylobacter and Immunomodulatory activities of Medicinal Plants

Descriptive Title of Project(s)

Molecular epidemiology and characterization of emerging enteric bacterial and parasitic pathogens

Co-funding leveraged by the Pfizer Initiative in International Health

Co-funding was provided by the Ellison Medical Foundation.

UVa mentors & co-supporting departments or centers

Richard L. Guerrant, MD

Professor of Internal Medicine

Director of the Center for Global Health

Department of Medicine

Division of Infectious Diseases and International Health

Abstracts, Presentations, Publications

The following are the papers published from the work I conducted during my Fellowship:

Samie A, Obi CL, Franaziak J, Archbald-Pannone L, Bessong PO, Alcantara-Warren C, Guerrant RL (2008). PCR detection of Clostridium difficile triose phosphate isomerase (tpi), toxin A (tcdA), toxin B (tcdB), binary toxin (cdtA, cdtB) and tcdC genes in Vhembe district, South Africa: American Journal Of Tropical Medicine and Hygiene. 78: 577-585.

Samie A, Obi CL, Stroup S, Houpt E, Njayou M, Sabeta CT, Mduluza T, Guerrant RL (2008). Genetic diversity of Entamoeba histolytica from Africa based on the serine- rich gene polymorphism. Experimental Parasitology. 118(3):354-61 doi:10.1016/j.exppara.2007.

Samie A, Obi CL, Barrett LJ, Tzipori S, Guerrant RL. Prevalence of Microsporidia in stool samples of hospital patients and school children in the Vhembe district, Limpopo Province, South Africa. The American Journal of Tropical Medicine and Hygiene Abstract 75[5], 78. 2006.

Steiner TS, Samie A, Guerrant RL. Infectious diarrhea: new pathogens and new challenges in developed and developing areas. Clin Infect Dis 2006 August 15;43(4):408-10.

Samie A, Obi CL, Dillingham R, Pinkerton RC, Guerrant RL. (2007) Enteroaggregative Escherichia Coli in Venda, South Africa: Distribution of Virulence-Related Genes by Multiplex PCR in Stool Samples of HIV Positive and HIV Negative Individuals and Primary School Children. American Journal of Tropical Medicine and Hygiene. 77(1): 142-150.

Samie A, Ramalivhana J, Igumbor EO, Obi CL. (2007). Prevalence, Hemolytic and Hemagglutination Activities and Antibiotic Susceptibility Profiles of Campylobacter spp Isolated from Human Diarrheal Stools in the Vhembe District, South Africa. Journal of Health Population and Nutrition 25 (4): 406 - 413.

Parr JB, Sevilleja JE, Samie A, Alcantara C, Stroup SE, Fayer R, Houpt ER, Guerrant RL. (2007) Detection and Quantification of Cryptosporidium parvum in HCT-8 Cells and Human Fecal Specimens using Real-time PCR. American Journal of Tropical Medicine and Hygiene, 76: 938-942.

Samie A, Obi CL, Tzipori S, Weiss LM, Guerrant RL. (2007). Microsporidiosis in South Africa: PCR detection in stool samples of HIV positive and HIV negative individuals and school children in the Vhembe district, Limpopo Province. Trans. Roy. Soc. Trop. Med. Hyg 101(6):547-54, doi:10.1016/j.trstmh.2007.02.005.

Samie A., Obi CL, Barrett LJ, Powell SM, Guerrant RL (2007). Prevalence of Campylobacter species, Helicobacter pylori and Arcobacter species in stool samples from the Venda region, Limpopo, South

Africa: Studies using molecular diagnostic methods, Journal of Infection. 54(6): 558-66. doi:10.1016/j.jinf.2006.10.047.

Samie A, Obi LC, Bessong PO, Stroup S, Houpt E, Guerrant RL (2006) Prevalence And Species Distribution of E. Histolytica And E. dispar In The Venda Region, Limpopo, South Africa. American Journal of Tropical Medicine and Hygiene, 75(3): 565-71.

Samie A, Bessong PO, Obi CL, Sevilleja JEAD, Stroup S, Houpt E, Guerrant RL (2006) Cryptosporidium species: Preliminary descriptions of the prevalence and genotype distribution among school children and hospital patients in the Venda region, Limpopo Province, South Africa. Experimental Parasitology. 114: 314 – 322.

Career Highlights related to the support of PIIH

The Pfizer initiative has basically changed my life. It has given me new knowledge, given me a new way to look at research and learn new methodologies. This has been instrumental in confirming my capacity as a researcher but also to be able to bring out my potential.

Fellow

Melissa Soares Medeiros

Degree/Pre-Award & Post/Award

MD; PhD candidate

I am using this work to finish my PhD in Brazil, so I can teach in the University here. It is also an important work that could give a result to patients that were submitted to this study, since enfuvirtide is an important drug to HIV treatment

Dates of support

3/2006 to 2/2007

Country and Affiliation

Brazil (Federal University of Ceará)

Research Interest

HIV Molecular Virology and Drug Development

Descriptive Title of Project(s)

Envelope and Rev Response Element Sequencing in HIV patients taking Enfuvirtide. I collected samples from HIV patients naive or taking medicines and sequenced the envelope region, analyzing RRE mutations.

Co-funding leveraged by the Pfizer Initiative in International Health

Co-support provided by the Myles H. Thaler Center for AIDS and Human Retrovirus Research

UVa mentors & co-supporting departments or centers

David Rekosh, PhD

Director, Myles H. Thaler Center for AIDS and Human Retrovirus Research

Professor of Microbiology

Marie-Louise Hammarskjöld, MD, PhD

Associate Director, Myles H. Thaler Center for AIDS and Human Retrovirus Research

Professor of Microbiology, Charles H. Ross, Jr. Professor of Multiple Sclerosis Research

Abstracts, Presentations, Publications

Medeiros MS, Arruda EAG, Guerrant RL, Brown C, Hammarskjold ML, Rekosh D, Lima AAM. Genotype testing and antiretroviral resistance profiles from HIV-1 patients experiencing therapeutic failure in northeast Brazil. Braz J Inf Dis. 2007;11(4):390-394.

Medeiros MS, Arruda EA, Guerrant RL, Brown CC, Lima AA. Impact of the number of failed therapeutic regimes on the development of resistance mutations to HIV-1 in northeast Brazil. Braz J Infect Dis. 2007 Oct;11(5):451-5.

The results are still being analyzed, but a brief report presented in the TMRC, an annual conference that happens in Brazil in association with Center of Global Health.

Career Highlights related to the support of PIIH

This is a very important initiative from Pfizer and I have just to thank you for this amazing opportunity to improve my knowledge and help me to grow in my profession. I wish you could continue to stimulate new students all over the world.

Fellow

Edgar Musie

Degree/Pre-Award & Post/Award

MSc, Microbiology; PhD candidate

I am concluding my thesis based on the data generated at UVA due to support from the Pfizer initiative.

Dates of support

3/2006-12/2008

Country and Affiliation

South Africa (University of Venda)

Research Interest

During inflammation, cells release inflammatory mediators that give rise to the symptoms of inflammation. The aim of my project is to determine how immunomodulation of inflammation affects the progression of pneumococcal infections in a sepsis animal model.

Descriptive Title of Project(s)

Immunomodulation of Inflammation Affects Progression of Pneumococcal Infection in Murine Model

Co-funding leveraged by the Pfizer Initiative in International Health

UVa mentors & co-supporting departments or centers

W. Michael Scheld, MD

Professor of Internal Medicine and Clinical Professor of Neurosurgery

Department of Medicine

Division of Infectious Diseases and International Health

Abstracts, Presentations, Publications

Musie EM, Mhlongo AT, Hoosen AA, de Villiers BT, Obi CL. Characterization of Streptococcus pneumoniae isolates prevalent at Ga-Rankuwa Hospital, South Africa. ASTMH 55th Annual meeting, November 12-16, Atlanta, Georgia

Edgar Musie, Edward Martin, Grace Lee, Amy Mathers, Christopher Moore, Larry Obi, W. Michael Scheld .Toll-like Receptor 4 (TLR4) Stimulation Provides Survival Enhancement in a lethal Murine Model of Systemic Streptococcus pneumoniae. IDSA 45th Annual Meeting, October 4-7, 2007, San Diego. California.

Edgar Musie, Edward Martin, Grace Lee, Amy Mathers, Christopher Moore, Larry Obi, W. Michael Scheld .Highly Purified Lipopolysaccharide (reLPS) as Adjunctive Therapy Provides Survival Enhancement in a lethal Murine Model of Systemic Streptococcus pneumoniae. IDSA 45th Annual Meeting, October 4-7, 2007, San Diego, California.

Edgar Musie, Edward Martin, Grace Lee, Amy Mathers, Christopher Moore, W. Michael Scheld. Pirfenidone as Adjunctive Therapy Provides Survival Enhancement in a lethal Murine Model of Systemic Streptococcus pneumoniae. ASTMH 56TH Annual Meeting. November 4-8, 2007. Philadelphia, Pennsylvania, USA.

Edgar Musie, Edward Martin, Michael W Scheld. Without Antibiotics, Toll-like Receptor 4 (TLR4) Stimulation before Challenge Protects Mice in a Model of Systemic Staphylococcus aureus. 48TH Annual ICAAC/IDSA 46TH Annual meeting. October 24-28, 2008. Washington DC, USA..

Edgar Musie, Edward Martin, Michael W Scheld. Etanercept as Adjunctive Therapy Provides Survival Enhancement in a Clinically Relevant Murine Model of Lethal Systemic Streptococcus pneumoniae. 48TH Annual ICAAC/IDSA 46TH Annual meeting. October 24-28, 2008. Washington DC, USA..

Career Highlights related to the support of PIIH

The collaboration exposed me and offered me opportunity to receive advanced training in well established scientific environment (fully equipped laboratory), learn and interact with international researchers from different backgrounds and countries and share tacit knowledge and skills which cannot be found in publications (Cross- fertilization). The collaboration was largely a matter of networking among scientists to attain sustentative that no partner could achieve independently and also helps to gain access to external resources to develop skills needed by our institutions. It provided me with the opportunity to be mentored by highly rated researchers in the world in the form of Drs. Scheld and Guerrant. I also learned the social and management skills needed to work as part of the team. Research can be a lonely endeavor; collaboration provided motivation and helped me overcome intellectual isolation with little resources by extending research networks to conduct

collaborative research and foster a sustainable research partnership for future research endeavors. After completion, I am going back to rejoin the Department of microbiology at the University of Venda as a lecturer (faculty member). The knowledge gained through the collaboration has equipped me to be a better academic staff and researcher. Attending conferences and workshops increased my scientific knowledge and will help me to effectively work, teach and conduct research at an expert level at my home university. The aim of the study was to determine the effects of immunomodulation on the progression of pneumococcal infection. Drs. Scheld, Guerrant, Moore, Edward Martin and center for global health family for their invaluable contributions during the generation of project protocols of the study. The data of the research work will be used in the conclusion of my PhD thesis and preparation of the manuscripts and grant applications to further study mechanisms of protection of different agents under the study. It was not all about seeing new landscape but having new eyes, insights and human capacity building. I will cherish this invaluable experience for the rest of my career.

Fellow

Margaret Nduta Githae

Degree/Pre-Award & Post/Award

RN, Community Health; Undertaking my PhD programme here in Kenya, Pfizer provided an opportunity to obtain international experience.

Dates of support

6/2006 – 7/2008

Country and Affiliation

Kenya (Great Lakes University of Kisumu)

Research Interest

Effectiveness of Community Based Information System (CBIS) in increasing the Capacity of the Community to advocate for Improved Services. In Nyando District-North Nyakach, Nyanza Province, KENYA

Descriptive Title of Project(s)

Development of Health psychometric scale for measuring mother self-efficacy in prevention of diarrhea.

Co-funding leveraged by the Pfizer Initiative in International Health

Support from Great Lakes University of Kisumu

UVa mentors & co-supporting departments or centers

Wendy Cohn, PhD, Public Health Sciences, University of Virginia

Abstracts, Presentations, Publications

Strengthening Community Based Child care; A case Study of Nyando District Kenya. Abstract presented at the Global Health Council.

Career Highlights related to the support of PIIH

The Pfizer initiative has provided an academic milestone that will have a direct and indirect impact on

the community health issues in my country. The exposure at the Global health office created an opportunity to exchange and share my experiences in relation to health education and promotion of communicable diseases. It also provided me with an opportunity to participate in an international forum.

Fellow

Hua Cheng

Degree/Pre-Award & Post/Award

MD; PhD, Epidemiology

Dates of support

1/1/2007 –7/1/2009

Country and Affiliation

China

Anhui Medical University, Div. of Research on Virology and Immunology,

National Center for AIDS/STD Control and Prevention,

China Center for Disease Control and Prevention (China CDC)

Research Interest

Public Health support in Anhui China, HIV/AIDS

Descriptive Title of Project(s)

HIV-1 phenotypic drug resistance assay based on HIV-1 packaging system

Summary: We are trying to develop a system to test HIV-1 phenotypic drug resistance based on a lentivirus Gag-pol packaging system. Two packaging vectors expressing HIV-1 nucleocapsid, capsid and envelope proteins, and one transfer vector including luciferase report gene are cotransfected into the 293T cell line to generate an HIV pseudotyped virus, which is used to infect T cell lines expressing both the CD4 and CCR4 co-receptor. The luciferase activity is turned on if T cell lines are infected by pseudotyped virus. Drug susceptibility in the presence of different concentrations of inhibitors is measured, and IC50 for tested pseudotyped virus is measured and compared with the wild type pseudotyped virus to determine if the tested virus contains drug resistant mutants.

Co-funding leveraged by the Pfizer Initiative in International Health

Co-funding provided by the Myles Thaler Center for AIDS and Human Retrovirus Research

UVa mentors & co-supporting departments or centers

David Rekosh, PhD
Director, Myles H. Thaler Center for AIDS and Human Retrovirus Research,
Professor of Microbiology

Marie-Louise Hammarskjöld, MD, PhD
Associate Director, Myles H. Thaler Center for AIDS and Human Retrovirus Research
Professor of Microbiology, Charles H. Ross, Jr. Professor of Multiple Sclerosis Research

Abstracts, Presentations, Publications

UVa Microbiology symposium poster: An inexpensive and rapid method for HIV-1 phenotypic drug resistance testing using a HIV-based vector packaging system

Career Highlights related to the support of PIIH

Before coming to UVa with the support from Pfizer Initiative, I was a field epidemiologist, and knew nothing about molecular biology and bench work. With the help and supervision of Drs. Rekosh and Hammarskjold in the Myles H. Thaler Center for AIDS and Human Retrovirus Research, I have grasped most of the techniques and methods in molecular virology such as DNA/RNA extraction, RT-PCR, cell culture, ELISA, transfection, virus culture, cloning, sequence analysis and western blot. I also have attended two courses for graduate students (Advanced Virology and Gene Structure and Function). Pfizer Initiative has absolutely helped me to extend my research field from population level to molecular level, especially in HIV/AIDS.

The Pfizer Initiative Award made it possible for me to come to University of Virginia, one of the top ranked universities in the US, to get bench training in molecular virology, especially in HIV/AIDS. I have learned many lab techniques from the most basic to the advanced during my training at the Myles H. Thaler Center for AIDS and Human Retrovirus Research. My mentors Drs Rekosh and Hammarskjold also have exposed me to many of the principles and practices of both molecular biology and virology. I have grasped much in technology and techniques in molecular biology such as RT-PCR, cloning, sequence analysis, cell culture and western blot. Furthermore, my mentors have helped me develop a new assay system for HIV phenotypic drug resistance, which is currently very useful for AIDS patients' regimen selection and resistance surveillance in my home country. After the training in UVa with Pfizer Initiative, my capability in scientific research has been improved greatly, my career has been enriched, and the friendship between UVa and China has been cultivated, which makes it possible for future collaboration in academic research between two countries.

Fellow

Ace Bryan Cabal

Degree/Pre-Award & Post/Award

Bachelor of Science in Microbiology Post-Pfizer Degree: Master of Science in Public Health Maj. in Infectious Disease Immunology

Dates of support

5/2007-7/2008

Country and Affiliation

The Philippines (University of the Philippines – Manila)

Research Interest

Enteroaggregative *Escherichia coli* (EAEC) infection and *Cryptosporidium parvum*

Descriptive Title of Project(s)

Development of Animal Model for the study of Enteroaggregative Escherichia coli Infection. & Testing potential vaccine candidate to Cryptosporidiosis.

Co-funding leveraged by the Pfizer Initiative in International Health

Additional support provided by Middle Atlantic Regional Center for Excellence in Biodefense (MARCE). The project name is /Cryptosporidium/ genomics, pathogenesis, and vaccinology, grant # is U54 AI057168 issued by NIH/ Institute for Allergy and Infectious Diseases.

UVa mentors & co-supporting departments or centers

James K. Roche, MD, PhD
Associate Professor of Internal Medicine
Department of Medicine
Division of Gastroenterology and Hepatology

Richard L. Guerrant, MD
Professor of Internal Medicine
Director of the Center for Global Health
Department of Medicine
Division of Infectious Diseases and International Health

Abstracts, Presentations, Publications

A Novel Neonatal Murine Model of Enteroaggregative Escherichia coli Infection Presented at the 2nd Annual Carey, Marshall, Thorner Scholar's Day, Department of Medicine, University of Virginia. 2007.

Intranasal Administration of a Salmonella-based Vaccine Expressing Cp15 Antigen Confers Protection in Neonatal Mice Challenged with Cryptosporidium parvum - to be presented as poster in the upcoming American Society for Tropical Medicine and Hygiene Annual Meeting, New Orleans. Louisiana, USA. 2008.

Career Highlights related to the support of PIIH

After doing this year long, lengthy yet fruitful research I am planning and actually now sharing the techniques that I have performed and learned in achieving the goal of this research project in my home Institution here in Manila, Philippines. I will be using this experience to further the enteric diseases research in the Philippines since it remains to be the leading cause of morbidity and mortality in my country. My experience in this research has empowered me to help for the betterment and strengthening the research capacity of my home institution to promote better health care and health delivery in my country. I will also use this research experience to further advance my career as a research scientist and as a servant of my fellowmen in terms of biotechnology and biomedical science.

Fellow

Jesus Emmanuel Allas Dalope Sevilleja

Degree/Pre-Award & Post/Award

MD; MPhil., Epidemiology

Dates of support

3/2007 to 2/2009

Country and Affiliation

The Philippines (University of the Philippines – Manila)

Research Interest

Immunodiagnosis on core parasites: Cryptosporidum, Giardia and Entamoeba

Descriptive Title of Project(s)

Prevalence and genotype distribution of enteric pathogens from stool specimens in the Philippines

Neonatal murine model of enteroaggregative Escherichia coli infection

Co-funding leveraged by the Pfizer Initiative in International Health

Jesus Emmanuel Allas Dalope Sevilleja was co-supported by the Ellison Medical Foundation and the International Training and Research in Emerging Infectious Disease (ITREID) grant from the Fogarty International Center/NIH. Additional support was provided by # U01 AI075526 "Tailoring Novel Therapeutics for Emerging Drug-Resistant C. difficile Colitis" issued by NIH/ Institute for Allergy and Infectious Diseases

UVa mentors & co-supporting departments or centers

Richard L. Guerrant, MD

Professor of Internal Medicine

Director of the Center for Global Health

Department of Medicine

Division of Infectious Diseases and International Health

Abstracts, Presentations, Publications

Asymptomatic C. difficile colonization and Weight Loss among LTCF residents. Pannone-Archbald L, Sevilleja JE, Evans J, Guerrant R. AMDA 2009.

Factors other than Bacterial or Toxin Concentrations likely Contribute to Intestinal Inflammation in Clostridium difficile infection. Pawlowski SW, Sevilleja JE, Kolling GL. Warren CA, Guerrant RL. IDSA (Infectious Diseases Society of America) 45th Annual Meeting. October 2008. Washington DC.

A Novel Neonatal Murine Model of Enteroaggregative Escherichia coli Infection. Cabal ABS, Roche JK, Sevilleja JEAD, Guerrant RL. The Second Annual Carey, Marshall, Thorner Scholar's Day. April 28, 2008. University of Virginia, Charlottesville, VA, USA..

Copeland C, Thompson M, Pinkerton R, Barrett L, Sevilleja JE, Lima A, Guerrant R. Fecal contamination of drinking water in a Brazilian shantytown: Importance of household storage and new human fecal marker testing. In press

Coutinho BP, Vieira CMG, Maciel JG, Thompson MR, Sevilleja JEAD, Lima AAM, Lopes MB, Oria RB, Guerrant RL. Cryptosporidium infection causes undernutrition, and conversely, weanling under-nutrition intensifies infection. J Parasitol. 2008 Jun 17:1.

Alcantara Warren C_, Destura RV, Sevilleja JEM, Barroso LF, Carvalho H, O'Brien A, Guerrant RL. Detection of epithelial injury and quantification of infection in the HCT8 organoid model of cryptosporidiosis. J Infect Dis 2008 Jul 1;198(1):143-9

Cryptosporidium Infection Causes Malnutrition and Malnutrition Also Worsens Cryptosporidium Infection. Coutinho BP, Maciel JG, Brito JRM, Thompson MR, Vieira CM, Sevilleja JE, Lima AAM, Oria RB, Guerrant RL. DMID International Research in Infectious Diseases Meeting 2007. Bethesda, MD, USA.

Oral Alanyl-Glutamine Reduces Cryptosporidium Infection in Suckling Mice Challenged by Post-natal Malnutrition. Maciel JG, Coutinho BP, Brito JRM, Thompson MR, Sevilleja JE, Oria RB, Lima AAM, Guerrant RL. DMID International Research in Infectious Diseases Meeting 2007. Bethesda, MD, USA.

Developmental Impact of Diarrhea and Cryptosporidial Infection: Novel Approaches to Therapy. Oria

RB, Lima AAM, Coutinho BP, Sevilleja JE, Guerrant RL. DMID International Research in Infectious Diseases Meeting 2007. Bethesda, MD, USA.

Detection of a Highly Sensitve Human Fecal Biomarker (10-10) in ≤ 10 ml Contaminated Drinking Water Samples Using Immunomagnetic Separation. Sevilleja JEA, Copeland CC, Guerrant RL. American Society of Tropical Medicine and Hygiene. 56th Annual Meeting 2007. Philadelphia, PA, USA.

Career Highlights related to the support of PIIH

My ongoing training as a research fellow at the Center for Global Health has greatly enhanced my skills in all aspects of research: particularly, laboratory skills such as conducting cell culture and organoid studies, performing DNA extraction, PCR, RT-PCR, doing molecular and immunological techniques in the analyses of in vitro and in vivo models of infections caused by Cryptosporidium, Giardia, E. coli and C. difficile, as well as designing experiments, analyzing data, performing statistical tests, and writing protocols and manuscripts. These skills have enabled me to train and provide technical assistance to other global health students, research fellows, as well as international researchers from the Philippines, Brazil, Panama, Peru, Ghana, and South Africa – thus strengthening and providing opportunity for collaboration between international institutions.

Fellow

Lufuno Grace Mavhandu

Degree/Pre-Award & Post/Award

MSc, Microbiology; PhD candidate

Dates of support

10/2007-06/2009

Country and Affiliation

South Africa (University of Venda)

Research Interest

Infectious Disease, specifically HIV/AIDS

Descriptive Title of Project(s)

The purpose of my proposed research supported by the Pfizer Initiative and the Center for Global Health focuses on developing a drug susceptibility phenotyping system for HIV-1 Clade C viruses. I am working at the Myles Thaler Center for AIDS and Human Retrovirus Research with Drs David Rekosh and Marie-Louise Hammarskjöld. I have been involved in a project to look at drug resistance mutations in HIV-1 infected individuals in South Africa prior to treatment. I am currently developing methods that will be useful in phenotyping putative resistance mutations of clade C viruses. These include cloning, virus culture, and other molecular biology methods.

Co-funding leveraged by the Pfizer Initiative in International Health

Co-funding provided by the Myles Thaler Center for AIDS and Human Retrovirus Research

UVa mentors & co-supporting departments or centers

David Rekosh, PhD
Director, Myles H. Thaler Center for AIDS and Human Retrovirus Research,
Professor of Microbiology

Marie-Louise Hammarskjöld, MD, PhD

Associate Director, Myles H. Thaler Center for AIDS and Human Retrovirus Research
Professor of Microbiology
Charles H. Ross, Jr. Professor of Multiple
Sclerosis Research

Abstracts, Presentations, Publications

Drug resistance mutations in naïve HIV-1 infected individuals in South Africa. Myles Thaler center for AIDS and Human Retrovirus Research, Department of Microbiology, UVA.

Cheng H, Mavhandu LG, Bor YC, Hammarskjöld ML, and Rekosh D. An inexpensive and rapid method for HIV-1 phenotypic drug resistance using HIV-based vector packaging system. Microbiology Retreat, October 14, 2008.

Career Highlights related to the support of PIIH

By participating in different projects being conducted in the laboratory, attending conferences, seminars and meetings, I have gained skills and experience necessary for the initiation of my career as a scientist. What I am learning will be essential for my contributions to the goals of Univen's budding virus research laboratory. This program is giving me the opportunity to gain knowledge and contribute ideas to other researchers and scientists at the University of Virginia and other countries in the world.

Fellow

Suporn Foongladda

Degree/Pre-Award & Post/Award

DVM; M.Sci., PhD, Pathobiology

Dates of support

9-12/2007

Country and Affiliation

Thailand (Sririraj Hospital, Mahidol University)

Research Interest

TB and HIV/AIDS … Cytokine activity against Mycobacterium tuberculosis. In Prof Eric Houpt lab, I've detect released cytokines in cerebro spinal fluid of HIV patients with tuberculosis compare with cryptococcosis and uninfected groups by using the new advantage machine Bioplex.

Descriptive Title of Project(s)

Transcriptional profile study of M. tuberculosis cells in sputum of HIV, non-HIV infected patient and in culture isolates.

Co-funding leveraged by the Pfizer Initiative in International Health

UVa mentors & co-supporting departments or centers

Dr. Eric Houpt, MD
Associate Professor of Medicine, Department of Medicine
Division of Infectious Diseases and International Health

Abstracts, Presentations, Publications

Not yet. But we are working for more data to present in an international meeting and publication.

Career Highlights related to the support of PIIH

I'm working on more research on the topic of cytokine activity against Mycobacterium tuberculosis which is advised and supported by Prof. Dr. Eric Houpt. Moreover we are planning to develop the

bioplex technique to detect MDR-Tb in sputum which is an effective method for tuberculosis diagnosis. Thank you so much for providing support for me to work with my adviser and colleague Prof Dr. Eric Houpt. We are in collaboration on Tuberculosis research on many topics. Next year, we hope that the development a biolpex method for MDR and XDR-TB will be done by your support. We are working some part in my lab and will use the new technique part in Dr. Houpt's lab.

Fellow

Eda Rosabina Palacios La Torre

Degree/Pre-Award & Post/Award

RN, Community Health; Lic. Nurse, the Pfizer Award will help towards the completion of a Masters in Public Health

Dates of support

9/-12/2008

Country and Affiliation

Peru (Socios En Salud Sucursal Peru)

Research Interest

Factors associated with the abandonment of Multi-Drug Resistant Tuberculosis treatment: Multidrug Resistant Tuberculosis (MDR TB) is a growing problem in Peru. Despite the high effectiveness and efficiency of the National Medical Strategy of the Prevention and Control of Tuberculosis (former National Program for the Control of Tuberculosis) of the last decade, that had achieved a sustained decrease in the incidence and prevalence of TB, the number of new cases of MDR TB is increasing, principally in Lima and Callao (Farmer PE et al,. 1997). In the last few years they have found an increase in the percentage of resistant strains to one or more drugs, including the multi-resistants (at least Isoniazid and Rifampacin). Given that the treatment for MDR TB is a complex process that requires a prolonged therapeutic regimen (of at least 24 months), diverse factors can influence the decision to continue or abandon it. These factors include characteristics associated with the services and health care staff, as well as personal characteristics of the patients themselves and their environment In the case of anti-tuberculosis treatment, there have been various approximations, identifying the general the factors such as low level of instruction, the uncertainty of being cured at the end of treatment, lack of family support, the impossibility of missing work to go to appointments and of complying with the schedule imposed by the medical center and affording the necessary transportation, social stigma of the disease, adverse reactions or intolerance to the medications and drug or alcohol addiction are factors that can negatively influence the continuation of treatment (according to different studies relating to TB). Since the initiation of the DOTS-Plus Strategy (1996), SES and the Ministry of Health (MINSA) have brought treatment to approximately 4500 patients with MDR TB. Currently, the cohort of Phase One of the Second Round of the Global Fund (enrolled

between September 2003 and November 2005) included 2,871 patients that began receiving treatment, are already under the individualized and standardized regimen, however as this refers to, despite the DOTS-Plus strategy that we use, the number of people that have abandoned treatment has increased. Therefore, my initial interest is to understand what is occurring in these cases. With this research we hope to answer the following question: What factors are influencing patients with MDR TB to abandon treatment? Subsequently, with this information we will seek whenever possible to intervene and modify those factors, whether those of the patient or health service, which play an important role in the persistence of the problem. Revision of different bibliographic articles updated in the Library of Health Sciences of UVA: Arrangement and cleaning of abandonment data to obtain a sampling instrument production, Interviewer training, application of the instrument in a pilot , application of the instrument in the cases and controls, revision of surveys, and creation of a database in Access.

Descriptive Title of Project(s)

Multi Drug Resistant TB, Social Factors in Medicine

Co-funding leveraged by the Pfizer Initiative in International Health

Partners In Health

UVa mentors & co-supporting departments or centers

Janine C. Jagger, MPH, PhD Becton Dickinson Professor of Research of Internal Medicine and Infectious Diseases, Director of the International Health Care Worker Safety Center at UVa.

Abstracts, Presentations, Publications

Palacios, Eda, Nurse Socio-Economic and Psycho-Emotional Support for MDR-TB management: identifying needs and monitoring support in Peru. UVA School of Nursing, 4th year of studies October 27th 2008

Career Highlights related to the support of PIIH

With the support of the Pfizer Initiative, I have advanced various aspects of my career. I have been able to expand my knowledge to be able to better understand the behavior of social health keeping in mind various perspectives from a psychological, sociological, and anthropological point of view that can explain human behavior and have various strategies to achieve the change, not only for the person with problems, but also other social actors involved in problem. I have strengthened my knowledge of other health problems such as occupational safety for health workers including sharp needles and bodily fluids that are a problem for public health according to research done by the state

about the importance of taking preventative action to avoid more health workers becoming infected with HIV, Hepatitis B and Hepatitis C. I have been able to strengthen alliances with the University and with other organizations and share experiences and establish relationships with other Fellows from Brazil, Mexico and South Africa in regards to other aspects of health.

I think the Pfizer Initiative is an opportunity that allows all of us to develop personally and professionally, strengthening our abilities, attitudes and capacities to be able to apply these lessons in our country and to continue the development of these other countries with limited access to health, as well as an exchange of cultures. I am grateful to the Center for Global Health and the Pfizer Initiative.

Fellow

David Meya

Degree/Pre-Award & Post/Award

MD

Dates of support

4/2006-ongoing

Country and Affiliation

Uganda (Makerere University)

Research Interest

Antibiotic resistance, diarrheal disease

Descriptive Title of Project(s)

Management and Investigation into the Pathogenesis of Severe Sepsis at Mulago National and Masaka Regional Referral Hospitals & Fluid Resuscitation of Severely Septic Patients Hospitalized in a National and Regional Referral Hospital in Uganda

Dr. Shevin Jacob has partnered with David Meya, MD of Makerere University, Uganda. Dr. Meya serves as project manager for the ongoing work on the sepsis study and we are pleased to include him as a Pfizer Initiative in International Health Fellow.

UVa mentors & co-supporting departments or centers

W. Michael Scheld, MD
Director, Pfizer Initiative in International Health
Professor of Internal Medicine and Clinical Professor of Neurosurgery
Department of Medicine
Division of Infectious Diseases and International Health

Abstracts, Presentations, Publications or Career Highlights related to the support of PIIH

“Severe Sepsis in Two Ugandan Hospitals: a Prospective Study Evaluating the Management and Outcomes of a Predominantly HIV-1 Infected Population.” XVII International AIDS Conference. Poster Presentation: Mexico City, August 2008.

Our goals are to advance the understanding of sepsis pathophysiology, to better define the immune response to sepsis, particularly as it pertains to human immunodeficiency virus (HIV) infection, and to learn how best to intervene on patients with severe sepsis and septic shock in order to improve their outcomes in settings where resources are limited, specifically sub-Saharan Africa. Based on our preliminary data from a cohort of severely septic patients in Uganda and early goal-directed therapy (EGDT) sepsis studies, we hypothesize that adequate fluid resuscitation is not only an important treatment modality but also a feasible mechanism by which to treat patients with sepsis in resource limited settings. Furthermore, we hypothesize that susceptibility to severe sepsis is at least in part due to the immune response of the host that can be characterized by inflammatory markers, i.e. plasma cytokines and chemokines, which can predict morbidity and mortality of patients presenting with severe sepsis. Additionally, we hypothesize that differences in regulation of the innate immune response as manifested by cytokine expression can be used to elucidate innate immune gene polymorphisms and responses that associate with survival or mortality. Finally, we hypothesize that the majority of the patients enrolled in our study will be HIV-infected and that specific characteristics of the infecting virus associate with severe sepsis and septic shock.

Researchers who have recently initiated their fellowship

Fellow
Japheth Opintan

Degree/Pre-Award & Post/Award
PhD candidate, Microbiology

Dates of support
9/2008-9/2009

Country and Affiliation
Ghana (University of Ghana Medical School, Microbiology Department)

Research Interest
Antibiotic resistance, diarrheal disease

Descriptive Title of Project(s)
Epidemiology And Genetic Basis For Antibiotic Resistance Among Diarrhoeagenic Escherichia Coli In Ghanaian Children Less Than Five Years

Co-funding leveraged by the Pfizer Initiative in International Health

UVa mentors & co-supporting departments or centers
Richard L. Guerrant, MD
Professor of Internal Medicine

Fellow
Shuiping Liu

Degree/Pre-Award & Post/Award
PhD, Microbiology and Immunology

Dates of support
10/2008 – 10/2009

Country and Affiliation
China (Department of Microbiology and Immunology,
Central South University Xiang-Ya School of Medicine)

Research Interest
Novel cellular Rev interaction partners

Descriptive Title of Project(s)
Mechanism of efficient inhibition of HIV-1 by antisense RNA

Co-funding leveraged by the Pfizer Initiative in International Health
Myles H. Thaler Center for AIDS and Human Retrovirus Research provides additional support. Dr. Liu also has co-support from the PRC.

UVa mentors & co-supporting departments or centers
David Rekosh, PhD

Director of the Center for Global Health
Department of Medicine
Division of Infectious Diseases and International Health

Director, Myles H. Thaler Center for AIDS and Human Retrovirus Research,
Professor of Microbiology
Marie-Louise Hammarskjöld, MD, PhD
Associate Director, , Myles H. Thaler Center for AIDS and Human Retrovirus Research
Professor of Microbiology
Charles H. Ross, Jr. Professor of Multiple Sclerosis Research

Sande Obondo James, MBChB in Microbiology, from Uganda (Makerere University) will initiate his fellowship in January 2009. His research interests include HIV/AIDS and highly active antiretroviral therapy.

University of Virginia Fellows

Fellow

Rebecca Kightlinger

Degree and Affiliation

DO, UVa Obstetrics and Gynecology

Dates of support

10/2007 – present

Country

Guyana

Descriptive Title of Project(s)

Prevalence of cervical cancer, dysplasia and HPV in indigenous Guyanese women; predominant HPV genotypes in indigenous Guyanese women with high-grade cervical neoplasia.

Abstracts, Presentations, Publications or Career Highlights related to the support of PIIH

Kightlinger R, Irvin W, Archer, K, Huang, N, Pinkerton, J. Prevalence of cervical cancer and human papillomavirus in indigenous Guyanese women, and analyis of HPV genotypes on women with high-grade cervical neoplasia. Accepted for publication by American Journal of Obstetrics and Gynecology Feb 29, 2008.

Wamhoff, D. Kightlinger, R, Irvin, W. Colposcopic impressions underestimate moderate to server cervical dysplasia in indigenous Guyanese women. Obstetrics and Gynecology 2008; 111(4):104S.

The Pfizer Initiative support was instrumental in capturing other sources of funding including Rotary International, the Taylor Foundation, Wings of Hope, Guyana.

Cancer Institute, St. Joseph Mercy Hospital, Georgetown, Guyana; SonoSite Corporation, Cytyc Corporation, Digene Corporation, and Bounty Farms, LTD, Guyana.

Dr. Kightlinger also works in conjunction with the Remote Area Medical Volunteer Corps. She serves as their Director of Cervical Cancer Prevention and Women's Health Program where she mentors and directs medical residents and medical students on service trips to Guyana. Her team works with the Guyanese Minister of Health, provides health care and patient follow up and trains local Guyanese health workers in cervical cancer screening, diagnosis, treatment and prevention as it relates to HPV infection.

Fellow

Shevin Jacob

Degree and Affiliation

MD/MPH, Infectious Diseases Fellow
Division of Allergy and Infectious Diseases
University of Washington (current)
Formerly a medical resident and fellow with the University of Virginia.

Dates of support

4/2006-ongoing

Country

Uganda

Descriptive Title of Project(s)

Management and Investigation into the Pathogenesis of Severe Sepsis at Mulago National and Masaka Regional Referral Hospitals & Fluid Resuscitation of Severely Septic Patients Hospitalized in a National and Regional Referral Hospital in Uganda

Dr. Jacob's work has allowed him to partner with David Meya, MD of Makerere University, Uganda. Dr. Meya serves as project manager for the ongoing work on the sepsis study and we are pleased to include him as a Pfizer Initiative in International Health Fellow.

Abstracts, Presentations, Publications or Career Highlights related to the support of PIIH

Moore CC, Jacob ST, Pinkerton R, Meya D, Mayanja-Kizza H, Reynolds SJ, Scheld WM. “Point-of-care lactate testing predicts mortality of severe sepsis in a predominantly HIV type 1-infected patient population in Uganda.” Clinical Infectious Diseases. January 2008; 46: 215-222.

Publications (pending):
CC Moore, ST Jacob, R Pinkerton, P Banura, DB Meya, SJ Reynolds, N Kenya-Mugisha, H Mayanja-Kizza, and W. Michael Scheld, “Treatment of severe sepsis with artemether-lumefantrine is associated with decreased mortality in Ugandan patients without malaria,” Am J Trop Med Hyg. In revision, Oct 2008.

ST Jacob, CC Moore, P Banura, R Pinkerton, D Meya, P Opendi, SJ Reynolds, N Kenya-Mugisha, H Mayanja-Kizza, and WM Scheld. "AIDS-associated mortality in the era of HAART: a prospective observational study on the management and outcomes of patients with severe sepsis on the medical wards of two Ugandan hospitals." Lancet. In revision, Nov 2008.

Presentations:

“Sepsis in Uganda: Point-of-Care Lactate Testing for Mortality Prediction in an HIV-Prevalent Patient Population.” University of Virginia Health System: Carey, Marshall, Thorner Scholars' Research Day. Oral Presentation: Charlottesville, April 2007.

"Severe Sepsis in Uganda--Findings and Future Directions from the PRISM-U Study Group." Infectious Diseases Institute Research Forum. Oral Presentation: Kampala, January 2008.

"Severe Sepsis in Uganda--Findings and Future Directions from the PRISM-U Study Group." Masaka Regional Referral Hospital, Continuing Medical Education Conference. Oral Presentation: Masaka, February 2008.

“Severe Sepsis in Two Ugandan Hospitals: a Prospective Study Evaluating the Management and Outcomes of a Predominantly HIV-1 Infected Population.” XVII International AIDS Conference. Poster Presentation: Mexico City, August 2008.

“Sepsis in the Tropics” Symposium. American Society of Tropical Medicine and Hygiene, 57th Annual Meeting. Oral Presentation: New Orleans, December 2008.

"Severe Sepsis in Uganda: an Opportunity for Health Workforce Task Shifting." Global Health Education Consortium, 18th Annual Meeting. Panelist: Seattle, April 2009.

In 2006, the Pfizer Award, under the mentorship of Dr. Mike Scheld, provided me with the opportunity to bring a study idea from inception to fruition. In this process, I have acquired invaluable insight into the many aspects involved in clinical research in settings where resources are constrained. The research in 2006 has led to a follow up study which is currently underway. As a result of the Pfizer Award, our group will be able to provide important insight into the management and pathogenesis of a disease which is an important cause of death in HIV patients in Uganda and perhaps, sub-Saharan Africa. Along the way, our research group has built new collaborations with researchers in North America, Europe and Africa. I will forever be indebted to this initiative for the opportunities it has given me and continues to provide in a field in which I am passionately invested. Continuing to fund similar projects for dedicated individuals will, no doubt, create a cadre of young professionals globally linked and capable of making an immeasurable impact towards the eradication of diseases of poverty.

Fellow

Christopher C. Moore

Degree and Affiliation

MD, Assistant Professor, Infectious Disease and International Health

Dates of support

3/2006-ongoing

Country

Uganda

Descriptive Title of Project(s)

Management and Investigation into the Pathogenesis of Severe Sepsis at Mulago National and Masaka Regional Referral Hospitals &
Fluid Resuscitation of Severely Septic Patients Hospitalized in a National and Regional Referral Hospital in Uganda &
Epidemiology and diagnosis of meningitis in Uganda

Abstracts, Presentations, Publications or Career Highlights related to the support of PIIH

CC Moore, S Jacob, R Pinkerton, P Banura, D Meya, S Reynolds, N Kenya-Mugisha, H Mayanja-Kizza, WM Scheld, "Treatment of severe sepsis with artemether-lumefantrine is associated with decreased mortality in Ugandan patients without malaria," American Society of Tropical Medicine and Hygiene 57th Annual Meeting, New Orleans, December, 2008

CC Moore, organizer and chair: American Society of Tropical Medicine and Hygiene Symposium, “Sepsis in the Tropics” American Society of Tropical Medicine and Hygiene 57th Annual Meeting, December, 2008

CC Moore, ST Jacob, R Pinkerton, P Banura, DB Meya, SJ Reynolds, N Kenya-Mugisha, H Mayanja-Kizza, and W. Michael Scheld, “Treatment of severe sepsis with artemether-lumefantrine is associated with decreased mortality in Ugandan patients without malaria,” Am J Trop Med Hyg, In revision, Oct 2008

CC Moore, ST Jacob, R Pinkerton, DB Meya, H Mayanja-Kizza, SJ Reynolds, and WM Scheld, “Point of care lactate testing predicts mortality of severe sepsis in a predominantly HIV-1 infected patient population in Uganda”, Clinical Infectious Diseases, January 15 2008; 46:215-222

CC Moore, ST Jacob, R Pinkerton, D Meya, H Mayanja-Kizza, SJ Reynolds, and WM Scheld, “Point of care lactate testing predicts mortality in a predominantly HIV-infected patient population with severe sepsis admitted to a national referral hospital in Uganda,” 4th International AIDS Society Conference, Sydney, Australia, 7/22/07-7/25/07

The Pfizer Initiative Award has allowed me to continue my work in international health. It is also improving links between the University of Virginia and Mbarara University in Uganda where we hope to have a training site for our housestaff. Data from part one of this study, the ability of a handheld

lactate monitor to 1) measure CSF lactate and 2) correlate results to a diagnosis of meningitis are ongoing. Part two of the study, the use of the handheld lactate monitor to assist in the diagnosis of meningitis will start in Mbarara Uganda in January, 2009

Short-term University of Virginia Fellows

Fellow

Gregory Sawin

Degree and Affiliation

MD, UVa Family Medicine

Dates of support

6-9/2006

Country

Botswana

Descriptive Title of Project(s)

Current Practices For Evaluation And Treatment Of Early Childhood Diarrhea And Cognitive Development In Botswana.

Abstracts, Presentations, Publications or Career Highlights related to the support of PIIH

Fellow

Tracy Bercu

Degree and Affiliation

MD, UVa Pathophisiology

Dates of support

1-3/2008

Country

Uganda

Descriptive Title of Project(s)

Fluid Resuscitation of Severely Septic Patients Hospitalized in a National and Regional Referral Hospital in Uganda

Abstracts, Presentations, Publications or Career Highlights related to the support of PIIH

Fellow

Luther Bartelt

Degree and Affiliation

MD, UVa Medical Resident

Dates of support

6-8/2008

Country

South Africa

Descriptive Title of Project(s)

Seroprevelance of Cryptosporidium parvum in healthy adults and HIV-positive subjects. We conducted a seroprevelance study using serum ELISA for Cryptosporidium parvum among approximately 50 university students and 200 HIV-positive subjects in the Venda region of South Africa. Additionally we began a pilot study comparing seropositive and seronegative subjects with new interferon-gamma release assay (Quantiferon) technology.

Abstracts, Presentations, Publications or Career Highlights related to the support of PIIH

Co-support was provided by the UVa Hook Fund

Pfizer Initiative in International Health at the University of Virginia

Scholars Comprehensive Summary

2005-Present

Pfizer – Center for Global Health Scholar Award in Infectious Disease

The Pfizer-CGH Scholar Award in Infectious Disease promotes rigorous scholarship, innovative research inquiries and international exposure for University of Virginia medical, graduate and undergraduate students. Scholars are required to work with faculty mentors to develop hypothesis-driven research to address infectious disease.

2005			
Scholar	Status	Country	Research Project
Haoyu Qian*	UVa Masters in Public Health , 2nd Year	China	Health Education and Policy in Rural China
Alexander Hawkins	UVA School of Medicine, 1st Year	Tanzania	Magnitude of Cryptococcal Meningitis in HIV Infected Adults at the Kilimanjaro Christian Medical Center
John Jesus	UVA School of Medicine, 1st Year	Guatemala	A Multicultural Approach to Medical Care of Infectious Disease: An Examination of the Interaction between Western Medicine and Traditional Beliefs and Practices of Healing in Xela, Guatemala

2006			
Scholar	**Status**	**Country**	**Research Project**
Rebecca Angevine	UVa Masters in Public Health , 2nd Year	Uganda	Adolescents and HIV Treatment in Uganda: Allocation, Ethics and Effectiveness
Galina Boyarinova	CLAS, Biochemistry, 3rd Year	Uganda	The Distribution of Antiretroviral HIV Therapy at Mulago Hospital in Kampala, Uganda: Medical, Cultural and Ethical Factors Influencing ARV Therapy
Regina Joice	CLAS, Human Biology, 4th Year	Tanzania	Development of a PCR-based diagnostic test for tuberculosis through a collaboration between University of Virginia and Kilimanjaro Christian Medical Centre (KCMC) in Moshi, Tanzania
Ndelilia Swai	(Laboratory Tech from Tanzania; PCR training in Houpt lab at UVa	USA/Tanzania	
James Platts-Mills & Patrick LaRochelle	UVA School of Medicine, 1st Year	Peru	Study of leptospirosis in Puente Piedra, an urban slum north of Lima, Peru
Cynthia Mangan	CLAS, Economics and Foreign Affairs, 4th Year	Peru	*An exploration of the microfinance-health interface in* Junín, Peru
Elise Min	CLAS, Biology and French, 4th Year	Uganda	HIV prevention efforts in Uganda are known for its well-known ABC message/ The role of faith-based organizations
Eliah Shamir	SEAS, Biomedical Engineering, 2nd Year	Thailand	Impact of HIV/AIDS on migrants in Thailand

2007			
Scholar	**Status**	**Country**	**Research Project**
Chris Cooley Brown	UVa School of Medicine, 3rd Year/	Brazil	Constraints upon resistance to T20 imposed by the Rev Responsive Element
Brooke Yamakoshi, et al.	MS in Systems Engineering candidate	Cameroon	Water Quality Testing in Tourou, Cameroon: A collaboration between UVA and the community of Tourou, Cameroon, to improve community health through water treatment. The research group partnered with AVISE (Association des Volontaires Interventants dans la Conservation du Sol et des Eaux par les Puits, Biefs et Reboisement), a community group in Tourou, and volunteers from the United States Peace Corps to introduce ceramic water filters as a sustainable, income-generating solution to water-related health problems.
Desiree Wagner	UVA School of Medicine, 1st Year	Ghana	Study of Diarrhea-Related Infectious Diseases Within Select Populations in Ghana
Clare Johnson, Ingrid Bloom, Matthew Chung, Michael Semanik, Susan Munga	UVA School of Medicine, 1st Year	Zambia	Surveying Exposure to Blood-Borne Pathogens Among Health Care Workers in Zambian Hospitals
James Heckman	UVA School of Medicine, 1st Year	South Africa	Determining Point Prevalence and Etiology of Iron Deficiency Anemia in School Age Children of Limpopo Provence, South Africa.
Lydia Abebe	SEAS, Systems Engineering, 4th Year	South Africa	Prevention Programs For The Transmission And Prevention Of HIV/AIDS; Adaptation Systems Engineering Risk Analysis Method

2008			
Scholar	**Status**	**Country**	**Research Project**
Mark Brewster	SEAS, Biomedical Engineering, 4th Year	Guatemala	Multi-Site Clinical Evaluation Of Infectious Disease Prevalence In The Central Guatemalan Highlands
Sharon Kim	UVA School of Medicine, 4th Year	South Africa	Determining The Circulation Of Drug-Resistant HIV In A Community With An Antiretroviral Drug Treatment Site
Hassan Hamandi, Jess Scriver, Matt Kohler, and Ben Milam	UVA School of Medicine, 1st Year	South Africa	The Investigation of Iron Deficiency Anemia and its Association with Infectious Disease in the Limpopo Province of South Africa through Nutritional Analysis and the Development of Community-Based Education Programs
Rebecca Burke & Cheryl Lynn Horton	UVA School of Medicine, 4th Year	Uganda	Management of severe sepsis with the assistance of patient attendants and an investigation into mechanisms of pathogenesis at a Ugandan national and a referral hospital
Elizabeth Grace Murphy	CLAS, Foreign Affairs and Spanish, 4th Year	Guatemala	Indoor Air Pollution and Respiratory Infections in Families of the Palajunoj Valley, Guatemala: A Health Intervention and Cost-Benefit Analysis
Niloo Ratnayake	UVA School of Medicine, 3rd Year	Rwanda	Assessing the mutuelle's effectiveness on HIV/AIDS throughout Rwanda
Kate Flatley*	UVa School of Law	Guatemala	HIV/AIDS in Guatemala: Studying the Epidemic in Migrant Coffee Workers

2008			
Scholar	Status	Country	Research Project
Elizabeth Vance*	UVA School of Medicine, 1st Year	Tanzania	Contraceptive Practices Amoung Women In Rural Tanzania
Winta Mehtsun* and Laura Harris*	UVA School of Medicine, 1st Year and CLAS, Political and Social Thought, 3rd Year	Senegal	Cervical Cancer Screening in Senegal: Barriers to Care and Diagnostic Effectiveness

CGH-University Scholars

The University of Virginia's Center for Global Health has established the CGH-University Scholar Awards to encourage UVa students to design and carry out multi-disciplinary projects in global health. Health issues can be approached from a broad range of disciplines including politics, biology, economics or foreign affairs. Scholars are required to involve at least two UVa mentors from multiple disciplines.

2005			
Scholar	Status	Country	Research Project
Cullen Carter*	UVA School of Medicine, 1st Year	Brazil	Infectious Disease Research Methods in Fortaleza Brazil
Amir Shahien*	2nd year UVA CLAS student	Brazil	Database tracking of GIS located infectious disease clusters
Meghan Thompson*	4nd year UVA CLAS student	Brazil	SIDA in Fortaleza: Studying Interactions of Diarrhea and ApoE/Antiretroviral Resistance
Cheryl Lynn Horton & Rebecca Burke	UVA School of Medicine, 1st Year	Uganda	Low cost treatment of patients presenting with HIV infection and sepsis at Mulago Hospital in Kamplala, Uganda

2007			
Scholar	Status	Country	Research Project
Aliesje Chapman	CLAS, Foreign Affairs, 3rd Year	Malawi	Researching HIV/AIDS Education of Women in Malawi
Meredith Saggers & Courtney Tolmie	PhD candidate in Economics	South Africa	The Indirect Costs of the AIDS Epidemic: A Study of Rural South African Households
Melissa Mallory	CLAS, Biology/Pre-Med, 3rd Year	South Africa	Investigation of the Risk Factors Associated with Disease Transmission among Healthcare Workers in Limpopo Province, South Africa

Since 2006, CGH scholars with proposals appropriate for support under the Pfizer Award were advised to apply directly for the Pfizer award to specifically comply with Pfizer award guidelines.

Dean's/CGH Scholar Award in Medicine

The Dean's Center for Global Health (formerly the Dean's Geographic Medicine Scholarship) provides funds for University of Virginia 4th year medical students who have completed their clinical clerkships to engage in an international elective experience in a developing economy. The Dean's award has been in existence at UVa since 1978.

2005			
Scholar	Status	Country	Research Project
Ritchie Rosso*	UVA School of Medicine, 4th Year	Brazil	Clinical and Research rotation in infectious disease
Robert Sam Hopkins	UVA School of Medicine, 4th Year	Uganda	Progression of Kaposi's Sarcoma in AIDS patients treated with protease inhibitor containing regimens vs. regimens without protease inhibitors

2006			
Scholar	**Status**	**Country**	**Research Project**
A. Parker Ruhl	UVA School of Medicine, 4th Year	Peru	HIV peer education cross-cultural models
Anita Kholi	UVA School of Medicine, 4th Year	Brazil	HIV/AIDS in Ceara, Brazil: Defining the illness, treatment , outcomes and strategies for further improvement
Yan Shi	UVA School of Medicine, 4th Year	Ghana	Reducing HIV/AIDS infection among women and children via education and prevention
Fatmatta Kuyateh	UVA School of Medicine, 4th Year	Ghana	Fetal Transmission of HIV and Anti-retroviral Treatment
Lealani Acosta	UVA School of Medicine, 4th Year	Guatemala	Primeros Pasos Pediatric Clinical Immersion
Nnaemeka Anyadike	UVA School of Medicine, 4th Year	Guatemala	Primeros Pasos Clinical Spanish Immersion
Swati Elchuri	UVA School of Medicine, 4th Year	Guatemala	Primeros Pasos – Pediatric Focus in Low-Resource Setting
Eric Scott	UVA School of Medicine, 4th Year	Tanzania	Infectious Disease in Tanzania
Geren Stone	UVA School of Medicine, 4th Year	Ghana	Cross-cultural Medicine: Exploring the differing perspectives and tensions with aid and development in public health in a developing nation
Kofi Vandyck	UVA School of Medicine, 4th Year	Ghana	Practice of Obstetrics/Gynecology in a Developing Country with a focus on prevalent infectious disease

2007			
Scholar	**Status**	**Country**	**Research Project**
Nathan Ostheimer	UVA School of Medicine, 4th Year	Ghana	Clinical Experience in Ghana
Cullen Carter	UVA School of Medicine, 4th Year	Tanzania	Studying HIV and Tuberculosis in Moshi, Tanzania
2009 (pending)			
Scholar	**Status**	**Country**	**Research Project**
Scott Ireland Otallah	UVA School of Medicine, 4th Year	Guatemala	Guatemala: Service, Culture, Language
Stacy Miller	UVA School of Medicine, 4th Year	Guatemala	Medical Elective in the Highlands of Guatemala
Steven Hutchens	UVA School of Medicine, 4th Year	Guatemala	SLC Guatemala Elective

Fogarty International Clinical Research Scholars Program – Overseas Fellowships in Global Health and Clinical Research

UVa 3rd year medical student, Chris Eller, was awarded the Fogarty Fellowship; with collaborative support from Pfizer, he and another Fogarty awardee were able to spend one year at the Federal University of Ceará in Fortaleza, Brazil. His focus included evaluation of cognitive and sensory function in children with a history of chronic early childhood diarrhea and measuring the incidence of *Cryptosporidium*, *Giardia*, and Enteroaggregative *Escherichia coli* infections in the Brazilians shantytowns (Favelas) using Polymerase chain reaction (PCR.)

** co-funding from additional sources includes the Center for Global Health Fund for Scholars, the Schools of Engineering, Medicine and the College of Arts and Sciences and the US-Brazil Consortium (funded by the US Department of Education). Additionally, scholars have*

received co-support from the Generalist Scholar Program within the School of Medicine, the Raven Fund, the UVa Institute for Practical Ethics, the UVA Community Based Undergraduate Research Grants and Partners in Health.

Scholar Follow-Up Statements

Having the Pfizer Initiative on my resume strengthened my application for a PhD program at Harvard. It also allowed me to get my foot in the door; providing me with the experience I've needed to pursue additional international research in my current PhD program. The Pfizer Initiative Award has had a profound impact on the trajectory of my career and life. As mentioned, it allowed me to get my foot in the door of international infectious disease research, which I continue to be involved with in my PhD program at Harvard. The greatest thing about the project was the "exchange": bringing a laboratory technician from Tanzania to UVA and then having myself travel to Tanzania. This was both a very valuable experience for the science and training involved, but also on a personal level was a very stimulating and enjoyable experience.

-- Regina Joice, Tanzania, 2006

The Pfizer award co-funded my graduate research, during which time I performed the field work for my masters thesis. Without this funding, I would not have been able to work with the community of Tourou to contribute to the water and sanitation needs of the community, nor would I have gained the valuable experiences of mapping, water testing, community animations, etc etc. I am now an operational analyst at the World Bank working on water resource management in the Nile Basin countries. Without my research and community development experiences in Cameroon, supported by the Pfizer Initiative, I would not have had the skills nor the qualifications for my current position. I believe that the Pfizer Initiative Award is unique in its ability to bring together academics from different fields at UVA to think broadly about solutions to global public health challenges. By bringing academics from around the world to UVA, the Pfizer also elevates the understanding of global health challenges among the UVA community. The education afforded to my research assistants and me by the Pfizer was the most comprehensive and community-oriented of all of our research experiences.

-- Brooke Yamakoshi, Cameroon, 2007

The Pfizer Initiative Award gave me an invaluable opportunity to experience both health care abroad and clinical research firsthand. Working in a hospital in a foreign country allowed me to understand more clearly the health care issues that many under served areas face. Also, learning how to successfully manage the challenges of doing clinical research gave me a basic set of skills that will enable me to do further research in the future. Overall, the Pfizer Initiative Award augmented my medical education in a unique way that can not be accomplished in the classroom.

-- Matthew Chung, Zambia, 2007

Since I decided I wanted to be a doctor in 2000, I have tried to come to Rwanda. This grant has literally made my dream come true. I have the honor to serve in a country where I feel I am needed. I know the work I am doing is creating a better Rwanda and is affecting thousands if not millions of lives. The significance of this has brought me to tears when I've had time to think about it. Thank you for this opportunity.

-- Niloo Ratnayake, Rwanda, 2008

Over this past summer, the Pfizer Initiative Award allowed me to return to Uganda for 8 weeks to continue the research project in which I participated after my first year of medical school. This was an incredible chance to continue the research involving the treatment of septic patients in a research poor setting, as well as to travel and experience Ugandan culture while living and working in the capital city of Kampala. I am grateful for the opportunity to return to Uganda, where I had first gone on rounds in Mulago Hospital and seen our first patient die from the opportunistic infections of HIV. On this trip, I was able to be an active participant in the research about and the medical care of the septic patients in our study. Seeing the devastation wrecked by diseases and lack of adequate medical care in Uganda, diseases managed aggressively in this country, I am both heartbroken and motivated to devote myself to improving the care for all patients, and the memories of my first patients in Uganda will forever be with me.

-- Rebecca Burke, Uganda 2005 & 2008

Pfizer Initiative in International Health Research Fellowship in Infectious Disease Application
Pfizer Initiative in International Health - CGH Research Award in Infectious Disease Application

The fellowship deadline occurs in the spring. Scholar award deadline occurs during the fall. Award decisions are made by the selection committee.

Pfizer Initiative in International Health
Selection Committee for Fellows and Scholars

William Michael Scheld, MD
Chair and Director, Pfizer Initiative in International Health

Rebecca Dillingham, MD
Assistant Professor of Medicine, Division of Infectious Diseases and International Health

Richard L. Guerrant, MD
Director, Center for Global Health

Fern Hauck, MD
Director, International Family Medicine Health

Marie-Louise Hammarskjöld, MD, PhD
Associate Director, Myles H. Thaler Center for AIDS and Human Retrovirus Research

Susan R. Hoffman, RN
Director, IRB for Health Sciences Research

Eric Houpt, MD
Associate Professor of Medicine, Division of Infectious Diseases and International Health

Cirle A. Warren MD
Assistant Professor of Medicine, Division of Infectious Diseases and International Health

All selection committee members are affiliated with the University of Virginia.

Pfizer-CGH Fellowship Eligibility Criteria

Deadlines occur in the spring and fall of each year. The current deadline is February 1, 2009. Please contact ctrglobalhealth@Virginia.EDU or call 243-6383 with questions.

The Pfizer-CGH fellowship encourages emerging investigators to address infectious diseases in developing areas around the world. Successful research planning incorporates the expertise of faculty, the research and health foci of relevant institutions as well as the career interests of the investigator. You are encouraged to review the existing research collaborations and contact PIIH and CGH affiliated faculty to discuss your proposal.

INTERNATIONAL FELLOWS	UVa FELLOWS
Position or commitment from an institution in a developing area with collaborative ties to the University of Virginia.	Current position or association with the University of Virginia and proposed project at a collaborating institution.
Leveraging of UVa collaborator support.	Leveraging of international host institution support.
Personal and institutional commitment to return to host country upon completion of fellowship.	Relevance to career goals in global health.
Strong research interest in infectious disease and global health.	Strong research interest in infectious disease and global health.
Hypothesis-driven research focused on infectious disease.	Hypothesis-driven research focused on infectious disease.

Scope and Purpose of the Pfizer-CGH Fellowships in Infectious Disease

- To create opportunities for international researchers to come to UVa and for UVa researchers to go to collaborating sites abroad.
- To ameliorate the diseases of poverty through training for promising university research or clinical personnel who are committed to building relevant programs among collaborating institutions.
- To foster collaborative relationships between UVa and international faculty.
- To support research, work, and teaching focused on ameliorating the diseases of poverty.

Instructions

Please complete the following application. Email ctrglobalhealth@Virginia.EDU with any questions.

Personal Information

Name

Employing University or Institution

Street Address*

City

State or Province

Zip or Postal Code:

Country

Office and Cell Phone:

Email Address:

Date of birth?

City and Country of birth?

Citizenship?

Gender:

☐ M ☐ F

Marital Status:

☐ Married ☐ Single

Children:

Proposal Information

Institutional Address:

Collaborating Mentor:

Position:

Contact Information:

Research Interests:

UVA Mentor:

Position:

Contact Information:

Research Interests:

Desired date of fellowship?

Descriptive Project Title:

Project Narrative to include the following:

- Background
- Rationale

- Hypothesis
- Methodology
- Expected Outcomes
- References

No more than 4 single spaced pages.

In the field provided, please upload your project narrative.
In the field provided, please upload your CV
In the field provided, please upload a budget of anticipated expenses including airfare, additional travel, visa fees, vaccines and medical expenses, living expenses and any anticipated project expenses.
In the field provided, please upload a letter of support from your departmental chair.
Please be aware that, In addition, if your research involves human subjects, you must apply for Institutional Review Board approval.

Educational Information

Undergraduate College/University:
Degree and Date:
Graduate College/University:
Degree and Date:

Pfizer-CGH Research Award in Infectious Disease

Eligibility Criteria

Examples of successful past applications

The Pfizer-CGH Research Award in Infectious Disease was established to encourage emerging student investigators in developing innovative, hypothesis-driven research which examine infectious diseases in developing areas around the world. Successful research planning incorporates the expertise of faculty, the research and health foci of relevant institutions as well as the academic and career interests of the investigator.

The Pfizer-CGH Research Award in Infectious Disease is open to UVa Medical School students, residents and UVa undergrad and graduate students from disciplines across grounds. Most medical students conduct their project as follows:

between their 1st and 2nd year
between their 3rd and 4th year under "special student status"
during their 4th year as an extended elective

Interested applicants are encouraged to review the existing research collaborations and contact PIIH and CGH affiliated faculty to discuss your proposal. Click here for an application.

Deadlines occur in the spring and fall of each year. The current deadline is November 3, 2008. Please contact ctrglobalhealth@Virginia.edu or call 243-6383 with questions.

Instructions and Guidelines

Please comply with all deadlines and requirements.
These instructions, deadlines and requirements apply to both awards:

2009 Pfizer Initiative in International Health Research Award &
2009 Center for Global Health-University Scholar Award

September / October 2008

Develop project outline with CGH staff and faculty mentor. Students can work at an established UVa collaborative research site or at an independent site abroad.

Develop contact with on-site mentors. Your host-country mentor may need to complete UVa IRB training and assist you with obtaining host country IRB approval.

Refine your hypothesis, methodology and general planning.

DEADLINE: Monday 13 October 2008
Complete UVa Institutional Review Board (IRB) Online Tutorial, Center for Global Health and the IRB. Print and sign completion page and submit to the Social and Behavioral Sciences Institutional Review Board (IRB-SBS) office by fax at 924-1992 or scan document and email to irbsbs@virginia.edu.
Submit a one page abstract of proposed research (in MSWord) to the UVa IRB by sending it to irbsbs@virginia.edu.

Monday 27 October 2008: You will receive a Pre-award Determination Notice from the IRB by email. This will indicate if an official IRB submission is required, which IRB office to contact and submit your protocol to, and the timeline for meeting with IRB personnel.

For questions and additional information, contact:

Health Sciences Research Institutional Review Board (HSR-IRB) 434-243-0639.
Social and Behavioral Sciences Institutional Review Board (SBS-IRB) 434-982-6469.

November / December 2008

DEADLINE: Monday 3 November 2008
Center for Global Health University Scholar Award Application due.
Pfizer Initiative in International Health/CGH Research Award in Infectious Disease Application due.

An interview is part of the selection process for the CGH University Scholar Award.

Friday 21 November 2008: The selection committee interviews will be held.

The schedule will be announced as soon as possible.

Monday 24 November 2008: All Scholar Awards announced.

TIMELINE: Monday 24 November - Friday 19 December 2008
Your Pre-award Determination Notice indicates if an IRB submission is required. If so, awardees MUST meet with an IRB staff in person BEFORE Friday 19 December 2008.
Your Pre-award Determination Notice will indicate which IRB to contact.

January 2009

For those awards requiring an IRB submission:

TIMELINE: Monday 24 November - Friday 30 January 2009
IRB required CITI training must be completed by 30 January 2009.
Final submission of human subject protocol to the appropriate IRB by 30 January 2009. IRB-HSR Website / IRB-HSR Submission Process IRB-SBS Website

Friday 30 January 2009: Center for Global Health and Pfizer Initiative in International Health Pre-Departure Orientation.

February 2009

DEADLINE: Monday 16 February 2009
International IRB Research protocol submissions due for those awards also requiring IRB approval from the host country institution.

April 2009

DEADLINE: Wednesday 1 April 2009
Complete Studio Abroad Waiver and Liability forms due to the International Studies Office/Studio

Abroad.
Obtain health insurance for traveling abroad and medical evacuation insurance.
Obtain all required vaccines at UVa student health.

Post-Award Requirements

Submit a final report on your work.

If an IRB submission was required, you are also responsible for submitting a study closure form to the appropriate IRB upon completion of your research project.

IRB-HSR Form

IRB-SBS Form

General Guidelines:

Please be aware that you are responsible for complying with all applicable policies and procedures for the International Studies Office, the Institutional Review Boards, the Institutional Animal Care and Use Committee and the Institutional Biosafety Committee. Funds will not be issued until all requirements are completed.

Please note that UVa students traveling abroad cannot travel to countries with US Department of State Travel Warnings and receive any UVa support (monetary or otherwise) or academic credit.

2009 Pfizer Initiative in International Health/CGH
Research Award in Infectious Disease Application

Personal Information

Name
Phone
Email Address
School and Major
Current Year (i.e. 1st year SMD student)

UVa Mentor Information

UVa Mentor 1 Name
UVA Mentor 1 Department
UVA mentor 1 Email Address
UVa Mentor 2 Name
UVA Mentor2 Department
UVa Mentor 2 Email Address
Please send letters of support from each faculty mentor (including your host country mentor) via email to ctrglobalhealth@virginia.edu or to Pfizer Initiative in International Health/PO Box 800822.

In-Country Host Mentor Information

In-Country Host Name
Host Institution or University
Street Address
City or Province
Postal Code
In-Country Host Email Address
In the field provided, please upload a copy of the acceptance email or letter from your host country mentor.

Project Information

_____

Descriptive Project Title

Country of Interest

Please submit a project narrative including the following:

Submit no more than 4 single spaced pages.

Background

Describe the global health issue that you will address with your project. Why is it important? Who does it affect? How does it impact the community(ies) affected by it? What is already being done to address it, if anything?

Rationale

Please briefly state the aspect of the global health problem that you wish to address including where you will work. Why have you chosen this aspect and this site?

Include discussion of how your proposal can be respectful of and of service to the focus community.

Hypothesis/Research Question

Please state in one or two sentences what your specific research question is.

Methodology

1) Describe the site including mentors and available resources/services.

2) Describe the population that you will be working with.

3) Describe the methodology that you will use to collect data.

4) Describe your planned analysis of the data.

5) Briefly discuss alternative strategies to address your hypothesis in the event that your initial plans are untenable.

Expected Outcomes

What are your expectations for the outcome of your project? For you? For the study participants? For the community? How will you share information with the people in the community where you conducted your work? Do you expect to present, publish or otherwise disseminate your findings? Please explain.

References

Personal Statement

Please describe how this work fits with your prior experiences, academic coursework, and/or future plans. What skills or qualifications do you possess that will be useful to you? What skills/experiences do you hope to gain?

In the field provided, please upload your project narrative
In the field provided, please upload a copy of your CV.
In the field provided, please upload a budget outline including travel costs, preliminary visa, medical and insurance costs, and living expenses.

The Pfizer Initiative provides support for the Center for Global Health annual research symposium. Recent keynote speakers include Roger I. Glass, MD, PhD, Director, Fogarty International Center, and Associate Director for International Research, National Institutes of Health; Michele Barry, MD, Yale University and Nils Daulaire, MD, Global Health Council. Additionally, the Pfizer Initiative supports the Infectious Disease/Biodefense Seminar Program which has hosted 39 distinguished speakers to date.

Global Health in the 21st Century: Where Do We Go From Here?

Friday, November 7th, 2007

10am-2pm

Rotunda Dome Room, University of Virginia

10am **Student Poster Presentations**

Noon *Introductory Remarks*

Richard L. Guerrant, MD, Director, Center for Global Health

Welcome

Steven T. DeKosky MD, Dean of the School of Medicine

Keynote

Roger I. Glass, MD, PhD, Director, Fogarty International Center,
Associate Director for International Research, National Institutes of Health

Global Health in the 21st Century: Where Do We Go From Here?

1:15 *Introduction*

Cirle A. Warren, MD, Assistant Professor of Medicine, Division of Infectious Diseases and International Health

Raul Destura, MD, Clinical Associate Professor of Medicine,
University of the Philippines-College of Medicine

Global Health: Sowing the Seeds in the Philippines From UVa to Manila

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1:30 *Introduction* of Pfizer Initiative in International Health/Center for Global Health Research Award in

Infectious Disease Scholars

W. Michael Scheld, MD, Director, Pfizer Initiative in International Health

Cheryl Lynn Horton and Rebecca Burke, UVa School of Medicine 4th Year

Management of severe sepsis with the assistance of patient attendants and an investigation into mechanisms of pathogenesis at a Ugandan national and a referral hospital

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Introduction

Maurice Apprey, PhD, Dean, Office of African American Affairs

Teemar Fisseha, Arts and Sciences, Foreign and Affairs and French Double Major, 4th Year

Sexual violence in Ethiopia and its assessment by different segments of society,
i.e., lawyers, doctors, psychologists, victims

Introduction

Rebecca Dillingham, M.D, M.P.H., Associate Director, Center for Global Health,
Assistant Professor of Medicine and Public Health Sciences, Division of Infectious Diseases and International Health

Erin Conroy, Arts and Sciences, Anthropology and Studies in Woman and Gender Double Major, 4th Year

Sara Sunisa Pasang Lehman, Arts and Sciences, Foreign and Affairs Major, Global Public Health Minor, 4th Year

Amber McCrady, Arts and Sciences, Psychology and Religious Studies Double Major, 4th Year

Stopping Traffick: Investigating Efforts to Improve the Physical, Mental and Economic Health of Vulnerable Women and Girls to Sexual Trafficking in Thailand

Photo: Meghan Sheely, 2008 CGH-University Scholar, Lesotho, Africa

Welcome to the Center for Global Health's 2008 Symposium

Global Health in the 21st Century: Where Do We Go From Here?

The University of Virginia's Center for Global Health was established in 2001. We work to promote health in resource-limited settings. We foster the commitment of students, faculty, and partners from many disciplines to address the diseases of poverty.

Center has three components:

1) Scholarships for UVa students who develop faculty-mentored projects related to health with collaborators in resource-limited settings
2) Fellowships for international researchers from collaborating institutions in developing regions to train and conduct research at UVa in order to return home, train others, and lead efforts to address local health priorities
3) Curricula at UVa relating to global health to prepare and inspire students for involvement in global health.

Thank you for joining us today, as we continue in our mission of building partnerships for global health.

Our Co-sponsors

The Pfizer Initiative in International Health

The mission of the Pfizer Initiative in International Health is to foster the exchange of UVa students, residents, fellows, and faculty with institutions in resource-limited settings to conduct multidisciplinary research of infectious diseases.

The Pfizer Initiative is run by Director W. Michael Scheld, MD and is dedicated to supporting work to resolve disease and improve health conditions around the globe. These conditions include malaria, tuberculosis and HIV/AIDS, which infects five million new people every year. Most of the victims of these diseases live in the poorest countries of the world. The Pfizer Initiative is dedicated to helping stop the spread of disease in these communities. PIIH and the Center for Global Health have a deep partnership forged in years of collaboration and shared interests. Welcome to the 2008 Center for Global Health Symposium.

W. Michael Scheld, MD
Bayer-Gerald L. Mandell Professor of Infectious Diseases
Professor of Internal Medicine
Clinical Professor of Neurosurgery
Director, Pfizer Initiative in International Health

The Global Public Health Society

The Global Public Health Society is a student organization at the University of Virginia that aims to promote awareness, sponsor projects, and enhance discussion relating to global health initiatives on Grounds, in the Charlottesville community, and the international community at large. To accomplish these goals, we work collaboratively with organizations in the public health field to help fulfill their needs. We also provide students resources to help with research and volunteerism. In addition, the GPHS seeks to develop relationships between University faculty and students to encourage partnership in pursuit of these aims through dialogue, service, and research. We are pleased and proud to co-sponsor this annual Center for Global Health Symposium, and welcome all.

The American Medical Student Association

The American Medical Student Association is the nation's oldest and largest independent student association. Nationally, AMSA advocates for the interest and well-being of patients, medical students, and residents and aims to promote awareness of social and global medical issues of interest to the medical student population at the University of Virginia. Locally, the UVa Chapter of AMSA organizes many events throughout the year, including lectures on health care, an annual event for World AIDS Advocacy, and an environmental health symposium.

The International Medicine Club

The International Medicine Club, founded in the spring of 1995, brings medical students, graduate students, undergraduates, and faculty together to address the need to view medical and public health issues from a global, multicultural perspective. Goals are to highlight career opportunities in global health and to link members with resources for learning about the issues associated with international medicine. The club invites speakers to discuss current health issues from a multidisciplinary approach, hosts an international film series, and provides students with a forum to engage in research and volunteer activities.

The Undergraduate Research Network

URN looks to encourage students to initiate research projects and so hopes to offer guidance and mentorship to those interested in research. To help achieve this goal, URN presents information about current research opportunities, publicizes funding availabilities and research related events. URN also provides a way for students to showcase their projects and reflect on their experiences (virginia.edu/cue/urn).

Infectious Disease/Biodefense Seminar Program		
2006-2007		
DATE	SPEAKER	TITLE
July	Udai P. Singh, PhD, Morehouse School of Medicine, Atlanta, GA (Postodctoral Candidate)	*Role of CXCL-10-CXCR3 Interactions in Crohns & Colitis*
August	Travis McCarthy, Ohio State University, Postdoctoral Candidate	*Characterization of mycobacterial phosphomannomutases involved in mannoglycoconjugate biosynthesis and immunopathogenesis*
September	G. Balakrish Nair, PhD, Director Lab Sciences Division International Center for Diarrhoeal Diseases Research Bangladesh	*The classical biotype heritage of the present El Tor biotype strains of Vibrio cholerae*
October	Bo Wu, PhD (Univ. of Penn, November 2006)Candidate for Postdoctoral Fellowship	*Heme Biosynthetic Pathway of Apicomplexan Parasites*
October	*"State of the Art" Biodefense an Infectious Diseases*	*Title TBD*
October	Dr. Stuart Isaacs Associate Professor of Medicine, University of Pennsylvania, Philadelphia, PA	*"Smallpox vaccines: first, second, and third generation"*
October	Dr. Myron Levine Professor and Director of the Center for Vaccine Development, University of Maryland, Baltimore, MD	*Title TBD*
October	Dr. Christopher Broder, Department of Microbiology & Immunology, Uniformed Services University of the Health Sciences, Bethesda, MD	*"Hendra, Nipah, Bats.....and Zoonotic Viral Disease Threats"*

October	D. Gray Heppner, MD, FACP, Colonel, US Army, Chief, Department of Immunology and Chair, Malaria Vaccine Steering Committee, Walter Reed Army Institute of Research, Silver Spring, MD	*Progress towards an RTS,S-based vaccine against Plasmodium falciparum malaria"*
October	Peter Katona, MD, Associate Professor of Clinical Medicine, David Geffen School of Medicine, University of California, Los Angeles	*Bugs, Terrorism, and Disasters: New Rules for the 21st Century*
October	Steve Porcella, Section Chief, Genomics/Microscopy/FACS units, RML Research Technologies Branch, Rocky Mountain Labs, NIAID, NIH, Hamilton, MT	*Host/pathogen genomics and high density arrays; data integration, getting a lot from a little, and what's on the horizon*
November	Douglas Berg, PhD, Professor, Department of Medicine Washington University School of Medicine St. Louis, MO	*Genome Evolution in Helicobacter pylori: multiple chromosomal mutations that underlie high level metronidazole resistance*
December	Chad Roy, M.S.P.H., PhD, Director, Infectious Disease Aerobiology, Tulane National Primate Research Center, Covington, LA	*Infectious Disease Aerobiology*
January	Barry Eisenstein, MD, Senior Vice President, Scientific Affairs , Cubist Pharmaceuticals , Lexington, MA	The challenge of *Staph aureus* infections in the face of growing antibiotic resistance: the development of daptomycin as a potential therapeutic option
February	Susan A. Allen, MD, MPH, DTM&H ,Professor of International Health , Rollins School of Public Health , Emory University , Atlanta, GA	Heterosexual Transmission and Natural History of HIV: A 20-year Perspective in Africa
February	Peggy A. Cotter, PhD, Department of Molecular, Cellular, and Developmental Biology, University of California, Santa Barbara, CA	*Maturation, localization, and function of the Bordetella two-partner secretion pathway protein filamentous hemagglutinin*

March	Jesse J. Kwiek, PhD, Departments of Epidemiology, Microbiology and Immunology University of North Carolina, Chapel Hill	Pathways of HIV Mother-to-Child Transmission in Malawi
March	Yousef Abu Kwaik, PhD, Bumgardner Professor of Molecular Pathogenesis University of Louisville College of Medicine Louisville, KY	"Exploitation of macrophages by *Francisella*"
April	Patricia Guerry, PhD, Chief, Molecular Biology Section, Enteric Diseases Department, Infectious Diseases Directorate, Naval Medical Research Center, Silver Spring, MD	Role of Flagella in *Campylobacter* Pathogenesis
April	Michael J. Brennan, PhD Associate Director of Research, Office of Vaccines Research and Review, Center for Biologics Evaluation and Research, Food and Drug Administration, Bethesda, MD	New TB Vaccine Strategies: Research on a novel gene family of Mycobacterium tuberculosis

Infectious Disease/Biodefense Seminar Program		
2005-2006		
DATE	SPEAKER	TITLE
September	Oswald R. Crasta, PhD Director of Bioinformatics, Cyberinfrastructure Group, VBI, Virginia Tech	Cyberinfrastructure for Biodefense: Development of Resources, Networks, and Countermeasures
October	Antje Flieger, PhD, Robert Koch-Institut Berlin, Germany	Virulence Strategies of Legionella pneumophila – The Key Role of Phospholipases
October	Anthony Scalzo, PhD, The University of Western Australia	Genetic variation of the mouse NKC and of the MCMV m157 gene – consequences for the host/viral interaction
November	Dan Hassett, PhD, University of Cincinnati College of Medicine	Killing of mucoid Pseudomonas aeruginosa in cystic fibrosis airways by just saying NO
November	D. Scott Merrell, PhD, Uniformed Services University of the Health Sciences Bethesda, MD	Adapt or perish: Regulatory mechanisms of Helicobacter pylori
December	Dr. Mike Kurilla, Director, Office of BioDefense Research Affairs, NIH	NIH BioDefense – Challenges and Opportunities
January	Chris Broder, PhD Uniformed Services University Bethesda, MD	Hendra and Nipah Viruses: Different and Dangerous
January	Dennis E. Ohman, PhD, Chair, Department of Microbiology & Immunology, Medical College of Virginia, Virginia Commonwealth University	Gene Regulation, Biosynthesis and Secretion of Alginate in Pseudomonas aeruginosa
February	Tony Romeo, PhD, Emory University School of Medicine	Global regulation by Csr RNA-protein interactions

February	Leslie B. Poole, PhD, Wake Forest University School of Medicine	Regulation of Redox Signaling by Peroxiredoxins: Interplay of Oligomeric State, Catalytic and Inactivation Properties"
April	Neil Hall, PhD, Institute for Genomics Research Bethesda, MD	Comparative Genomics of Plasmodium to study host parasite interactions
April	Roy Duncan Dalhousie University Halifax, Nova Scotia	Fusion-associated small transmembrane (FAST) proteins: from structure and function to an intracellular delivery platform.
April	Dr. Yasuhiro Suzuki, PhD, D.M.Sc. Virginia Tech	Immunopathogenesis of toxoplasma encephalitis in a mouse model.
May	Bruce Horwitz, MD, PhD, Department of Pathology, Brigham and Women's Hospital Boston, MA	Inhibition of mucosal inflammatory responses by the p50/p105 subunit of NF-kb
May	Wen Yuan, PhD, Department of Cancer Immunology and AIDS Dana-Farber Cancer Institute Boston, MA	The HIV-1 Envelope Glycoproteins: A Target for Intervention
June	Selma M.B. Jeronimo, MD, Universidade Federal do Rio Grande do Norte, Brazil	Outcome of Leishmania chagasi infection in Brazil: The role of a family study in investigating host genetics”
June	Eleanor Riley, BSc, BVSc, PhD, London School of Hygiene & Tropical Medicine, U.K.	Regulating immunity to malaria
June	Michael Hornback, PhD Candidate, East Carolina University	Wild-type Base Excision Repair of DNA Damage in Brucella abortus Appears to Require Both xthA-1 and xthA-2 Gene Products
June	Daniel Barry, PhD, University of California, Davis	Nocardia asteroides is an inducer of eukaryotic host cell apoptosis