Global Translational Research and Education

Katherine Luzuriaga

University of Massachusetts Medical School


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Global Translational Research and Education

Katherine Luzuriaga, MD
Associate Provost, Global Health
UMMS Strategic Goal 6: Have a Significant Impact in the World

The UMMS Office of Global Health (OGH) was founded in 2009 to enhance and expand UMMS research and training programs in global health

GOALS:
• EDUCATION:
  • Work with UMMS medical, graduate, and nursing schools; UMass campuses; and global partners to create programs that rigorously prepare trainees for careers in global health

• RESEARCH:
  • Create infrastructure to support the development and conduct of global health projects
  • Leverage institutional funding sources to increase extramural funding:
    • Administer grant programs that provide seed money for innovative research and educational programs.
      • Pilot project grants
      • Travel grants
  • Sponsor seminars and symposia
UMMS Strategic Goal 6: Have a Significant Impact in the World

- **Academic institutions as agents of change:**
  - Fostering investigation and discovery
  - Translating discovery into evidence-based, cost-effective policies and practice
  - Developing innovative education and training programs to build human resource capacity and future leaders

- **Health and health care are integral components of any strategy for economic development and security**
  - Governmental and foundation resources to support global health programs have increased more than ten-fold
Rationale for Global Research Partnerships:

• Educational experiences
• Scientific expertise/collaboration
• Innovative, lower cost approaches to health care
• Access to unique patient cohorts:
  • Rare diseases
  • Diseases endemic in lower resource settings
• Funding: Development assistance for health in LMIC doubled from $5.6 billion in 1990 to roughly 10 million in 2001; it doubled again to $21.8 billion in 2007 (Ravishankar et al, Lancet, 2009)
Development assistance for health from 1990 to 2007 by source of funding
Fig. 1. NCI’s new Center for Global Health promotes a collaborative effort to reduce the burden that cancers impose on people and countries around the world.

Varmus H, Trimble E L Sci Transl Med 2011
Global Cancer Deaths

<table>
<thead>
<tr>
<th>Year</th>
<th>Global Cancer Deaths</th>
<th>% in low resource settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>6.2 million</td>
<td>55%</td>
</tr>
<tr>
<td>2008</td>
<td>7.6 million</td>
<td>64%</td>
</tr>
<tr>
<td>2030 (Projected)</td>
<td>13.2 million</td>
<td>69%</td>
</tr>
</tbody>
</table>

25% of cancers in limited resource settings are associated with infectious agents

Varmus and Trimble, Sci Tran Med, 2011
### Table 1.1: General rules of infection and cancer

<table>
<thead>
<tr>
<th>Infection</th>
<th>Event</th>
<th>Prevalence</th>
<th>Incidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPVs</td>
<td>Cervical cancer</td>
<td>100%</td>
<td>490,000</td>
</tr>
<tr>
<td>HBV</td>
<td>Liver cancer</td>
<td>50%</td>
<td>340,000</td>
</tr>
<tr>
<td>HCV</td>
<td>Liver cancer</td>
<td>25%</td>
<td>195,000</td>
</tr>
<tr>
<td>EBV</td>
<td>Burkitt lymphoma</td>
<td>&gt;90%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hodgkin lymphoma</td>
<td>&gt;50%</td>
<td>113,000</td>
</tr>
<tr>
<td></td>
<td>Post-transplant lymphoma</td>
<td>&gt;80%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nasopharyngeal carcinoma</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>KSHV</td>
<td>Kaposi sarcoma</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Primary effusion lymphoma</td>
<td>100%</td>
<td>66,000</td>
</tr>
<tr>
<td></td>
<td>Multi Castleman's disease</td>
<td>&gt;50%</td>
<td></td>
</tr>
<tr>
<td>HTLV1</td>
<td>Adult T cell leukaemia</td>
<td>100%</td>
<td>3,000</td>
</tr>
<tr>
<td>H. pylori</td>
<td>Gastric carcinoma</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MALT lymphoma</td>
<td>100%</td>
<td>603,000</td>
</tr>
</tbody>
</table>
Years of life lost (YLL) due to premature mortality by broad cause and country-income group

<table>
<thead>
<tr>
<th>Low income</th>
<th>Middle income</th>
<th>High income</th>
</tr>
</thead>
<tbody>
<tr>
<td>234</td>
<td>103</td>
<td>55</td>
</tr>
</tbody>
</table>

- **Years of life lost (YLL) per 1000 population**

- **Communicable diseases, maternal and perinatal conditions and nutritional deficiencies**
- **Noncommunicable conditions**
- **Injuries**
UMMS RESEARCH STRENGTHS: Communicable Diseases

- Programs and Centers
  - Center for AIDS Research
  - Immunology Virology Program
  - Microbiology and Physiological Systems
  - Molecular Genetics and Microbiology
  - Program in Molecular Medicine
  - Institute for Drug Resistance
  - UMass Biologics Laboratory
  - Mass State Lab
  - Advanced Therapeutic Cluster

- Specific Diseases
  - HIV
  - Malaria
  - Tuberculosis
UMMS RESEARCH STRENGTHS: Non-communicable Diseases

- Programs and Centers
  - Brudnick Neuropsychiatric Research Institute
  - Cancer Center
  - Cardiovascular Center of Excellence
  - Center for Tobacco Treatment Research and Training
  - Commonwealth Medicine
  - Diabetes and Endocrinology Research Center
  - Institute of Child Health and Human Development Intellectual and Developmental Disabilities Research Center (IDDRC)
  - Quantitative Health Sciences
  - Pediatrics, Family Medicine, Emergency Medicine, OB/GYN

- Specific Conditions:
  - Aging
  - Cancer
  - Cardiac Disease
  - Developmental/neurologic disorders
  - Diabetes
  - Injury prevention
  - Maternal-Child Health
  - Obesity
  - Outcomes research
EXTERNAL AND INTERNAL PARTNERS

**US Partners**
- USAID
- NIH Fogarty Center
- Center for Disease Control
- Consortium of Universities for Global Health
- Higher Education for Development
- Global Health Education Consortium
- Global Health Council
- Health, Education and Relief Through Teaching (HEARTT)
- Bill and Melinda Gates Foundation

**UMass System**
- UMass President’s Office
- UMass China Institute
- UMass School of Public Health (Amherst)
- UMass Amherst Institute for Global Health
- UMass Boston Center for Democracy & Development
- UMass Dartmouth School of Nursing
- UMass Lowell School of Nursing

**International Partners**
- Universidade Federal de Minas Gerais (Brazil)
- West China School of Medicine (China)
- Peking Union Medical College (China)
- Peking University Health Sciences (China)
- Tongji University Medical School (China)
- East China Stem Cell Bank (China)
- Universidad Tecnológica de Santiago (Dominican Republic)
- Royal College of Surgeons of Ireland (Ireland)
- Kenya Medical Research Institute (Kenya)
- John F. Kennedy Medical Center (Liberia)
- Health Education and Relief Through Teaching (HEARTT)

**UMMS**
- School of Medicine
- Graduate School of Nursing
- Graduate School of Biomedical Science
- Graduate Medical Education
- International Medical Education
- Center for Clinical & Translational Science
- MA State Laboratory
- MA Biologics Laboratories
- The Shriver Center
- Center for Drug Resistance
- Center for AIDS Research
- New England AIDS Education & Training Center
GLOBAL HEALTH PROJECT MAP
GOAL: Develop infrastructure to support the development and conduct of global health training, research, and service projects

- International Project Resources
  - International Project Registration
  - Memoranda of Understanding
  - Travel Resources and Registration
  - Communication Portals
  - Funding
Advise on the development of policies and procedures that

• facilitate the development and implementation of international research projects

• ensure compliance with federal, state, and host country laws, as well as UMass/UMMS policies
FOREIGN PROJECTS FUNDING

- Global Health-Related Extramural Funding: FY2011
  - Direct Costs = $1,888,686
  - Indirect Costs = $739,872

- FY2012: Thus far, $1.3 million direct, $290K indirects ($1.6 m) new grants
Foreign Projects and Memoranda of Understandings

On Monday, March 5th, 2012, the Dean of UMass Medical School, Dr. Terence Flotte, sent out a memo informing all UMMS faculty, staff, student and trainees of the updated programs and support systems that the Office of Global Health has developed. These programs are in place to facilitate the development and implementation of Global Health clinical, research, and educational projects. To find out more about Foreign Project Registration or development of an MOU, please visit the links provided on the left menu bar.

Quicklinks
- Dean’s Global Health Memo
- Foreign Project Registration
- Download the Foreign Project Registration Form
- Memoranda of Understanding

Announcements
- → NEW DEADLINE!!! OGH Pilot Project and Travel Award RFAs. Application Due: April 9th, 2012

Dean Terence Flotte's Memo on updated OGH programs and support systems.
OGH policy on Foreign Project Registration.
Fill out the Foreign Project Registration Form
OGH policy on developing a Memoranda of Understanding.
INTERNATIONAL PROJECT REGISTRATION FORM

1. General information (investigator and admin. contacts)
2. Scope of work (research, educational, or patient care)
3. Infrastructure (personnel, real estate, international travel)
4. Legal (MOUs, other agreements)
5. Financial (funding sources, sub-awards, field advances)
6. Export control (Item import/export; hosting students/visitors)
7. Departmental Signoff
FOREIGN PROJECTS SUMMARY
JANUARY, 2011 THROUGH MARCH, 2012

Foreign Projects by Continent

- Europe: 30%
- Africa: 32%
- North America: 11%
- South America: 9%
- Middle East: 7%

Total number of countries = 25 countries
FOREIGN PROJECTS SUMMARY
JANUARY, 2011 THROUGH MARCH, 2012

Total number of projects = 44 projects

- Research: 33 (75%)
- Education: 5 (11%)
- Patient Care: 2 (4%)
- Research, Education, Patient Care: 1 (2%)
FOREIGN PROJECTS SUMMARY
JANUARY, 2011 THROUGH MARCH, 2012

• Grants or Grant proposals = 21 (48%)
  – NIH = 13 (62%)
  – Other = 7 (33%)
  – Contract for services = 1 (5%)
Memoranda of Understanding (MOU’s)

MOU’s formalize an affiliation between UMMS and an international institution or organization:

• Provide an overview of the affiliation’s scope of work and describe the relationship that UMMS is seeking with a partner institution or organization

• Lay the groundwork for specific affiliation agreements or contracts
PRINCIPLE:
PARTNERSHIPS WITH PURPOSE

1. Contact Jessica Chang, OGH Coordinator for MOU template.

2. Insert the name and logo of the partner institution; delete any provisions not applicable to the proposed partnership.

3. Return draft MOU to OGH for review by Legal, OGH and relevant UMMS departments and programs.

4. OGH will send a copy of the draft MOU to the partner institution for approval.

5. Once both parties have approved the MOU, OGH will arrange for the leadership of each institution to sign.
<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>PARTNERING INSTITUTION/ORGANIZATION</th>
<th>UMMS CONTACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>Universidade de Sao Paulo – UMass system wide</td>
<td>UMass President’s Office</td>
</tr>
<tr>
<td>Brazil</td>
<td>Universidade Federal de Minas Gerais (FOCROCUZ)</td>
<td>Doug Golenbock, MD</td>
</tr>
<tr>
<td>Bolivia</td>
<td>Viedma Clinical Hospital and the Institute of Human Development</td>
<td>Doug Golenbock, MD</td>
</tr>
<tr>
<td>Chile</td>
<td>Universidad Andrés Bello, Centro de Investigaciones Biomédicas</td>
<td>Gary Stein, Ph.D.</td>
</tr>
<tr>
<td>China</td>
<td>West China School of Medicine, Sichuan University</td>
<td>Guangping Gao, Ph.D.</td>
</tr>
<tr>
<td>China</td>
<td>Peking Union Medical College</td>
<td>Guangping Gao, Ph.D.</td>
</tr>
<tr>
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<td>Dominican Republic</td>
<td>Universidad Tecnologica de Santiago</td>
<td>Doug Golenbock, MD</td>
</tr>
<tr>
<td>Germany</td>
<td>The Universities of the State of Baden-Wurttemberg</td>
<td>Frank Hugus</td>
</tr>
<tr>
<td>Haiti</td>
<td>St. Damien Hospital</td>
<td>Patricia McQuilkin, MD</td>
</tr>
<tr>
<td>Hungary</td>
<td>Simmelweis University</td>
<td>Gyongyi Szabo, MD, Ph.D.</td>
</tr>
<tr>
<td>India</td>
<td>Seth Gordhans Sunderas Medical college (GSMC)</td>
<td>Avi Patwardhan, MD</td>
</tr>
<tr>
<td>Ireland</td>
<td>Royal College of Surgeons in Ireland</td>
<td>Michael Godkin, Ph.D.</td>
</tr>
<tr>
<td>Italy</td>
<td>University of Modena and Reggio Emilia</td>
<td>Anthony Carruthers, Ph.D.</td>
</tr>
<tr>
<td>Japan</td>
<td>Kitasato University</td>
<td>Mitsuo Ikebe, Ph.D.</td>
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<tr>
<td>Japan</td>
<td>Hokkaido University</td>
<td>Mitsuo Ikebe, Ph.D.</td>
</tr>
<tr>
<td>Kenya</td>
<td>Kenya Medical Research Institute</td>
<td>Ann Moormann, Ph.D.</td>
</tr>
<tr>
<td>Kenya</td>
<td>Moi / Indiana University</td>
<td>Ann Moormann, Ph.D.</td>
</tr>
<tr>
<td>Lebanon</td>
<td>American University of Beirut</td>
<td>Katherine Luzuriaga, MD</td>
</tr>
<tr>
<td>Liberia</td>
<td>John F. Kennedy Medical Center</td>
<td>Katherine Luzuriaga, MD</td>
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<td>Liberia</td>
<td>Health Education &amp; Relief through Teaching (HEARTT)</td>
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<td>Liberia</td>
<td>University of Liberia</td>
<td>UMass President’s Office</td>
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<td>Nicaragua</td>
<td>Universidad Nacional Autonoma de Nicaragua, UNAN LEON</td>
<td>Michael Godkin, Ph.D.</td>
</tr>
<tr>
<td>Puerto Rico</td>
<td>Universidad de Puerto Rico</td>
<td>Robert Goldberg, MD</td>
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<tr>
<td>South Korea</td>
<td>Korean Basic Science Institute</td>
<td>Mitsuo Ikebe, MD</td>
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<tr>
<td>Thailand</td>
<td>Mae Tao Clinic</td>
<td>Meredith Walsh, RN</td>
</tr>
<tr>
<td>USA</td>
<td>Ibis Reproductive Health</td>
<td>Meredith Walsh, RN</td>
</tr>
<tr>
<td>USA</td>
<td>Medicorps</td>
<td>Melissa Fischer, MD</td>
</tr>
</tbody>
</table>
International Travel Registration

In compliance with UMass travel policy, anyone traveling under the University of Massachusetts Medical School auspices must complete this a travel registration form. The information provided is needed for UMass-sponsored AIG international travel insurance, which covers everyone traveling in connection to their work or study at UMass, and to help us provide assistance should emergencies arise during travel. Upon completion of this form, you will be prompted to download and print the AIG International Travel Insurance Packet.

The University of Massachusetts Medical School abides by the Travel Alerts and Warnings provided by the U.S. State Department. All travelers to countries on the State Department Travel Alert or Warning list must fill out the special travel registration and waiver form instead of the regular travel registration form.

Announcements

→ NEW DEADLINE!!! OGH Pilot Project and Travel Award RFAs. Application Due: April 9th, 2012

Travel Warning Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Issue Date</th>
<th>Travel Alert Countries</th>
<th>Issue Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenya</td>
<td>04/04/2012</td>
<td>Egypt</td>
<td>03/29/2012</td>
</tr>
<tr>
<td>Mali</td>
<td>04/03/2012</td>
<td>Bahrain</td>
<td>01/23/2012</td>
</tr>
<tr>
<td>Chad</td>
<td>03/29/2012</td>
<td>Tunisia</td>
<td>01/13/2012</td>
</tr>
<tr>
<td>Yemen</td>
<td>03/27/2012</td>
<td>South Pacific Cyclone Season</td>
<td>12/12/2011</td>
</tr>
<tr>
<td>Israel, the West Bank and Gaza</td>
<td>03/19/2012</td>
<td>Japan</td>
<td>10/07/2011</td>
</tr>
</tbody>
</table>
International Travel: OGH Policy for International Travel

Download the OGH Policy and Requirements for International Travel.

OGH Special Travel Policy
For travelers to countries under U.S. State Department Travel Warnings or Alerts.

Travel Registration Form
Fill out an International Travel Registration or Special Travel Registration & Waiver Form.

PolicY AND REQUIREMENTS FOR INTERNATIONAL TRAVEL

1. Review travel preparation and safety tips 60-90 days before travel and ticket purchase
   b. Review the US Department of State country-specific information and any Travel Warnings or Alerts that pertain to the travel destination, available at http://travel.state.gov/.
   d. Consult with Program Directors and In-country hosts to coordinate specific activities, travel logistics, lodging, transportation, in-country emergency plans, etc.

2. Travel to countries with US State Department of CDC Travel Warning, Alert or Notice
ONLINE TRAVEL REGISTRATION

Why Register?
UMass Travel Insurance
Emergency Assistance
COMMUNICATION PORTALS

Welcome to the Office of Global Health's Liberia Intranet Page

To navigate this website, use the blue menu on the left. If you have questions or content to add, please contact Kiger Lau at kiger.lau@umassmed.edu.
• Peer reviewed grant awards:
  • Pilot grants
    • Project development
    • Fund clinical or laboratory infrastructure
    • Support specific translational research projects (T1 to T3)
  • Travel awards
    • Support training of care providers and global health researchers through participation in international clinical activities and research
2009 OGH GRANT RECIPIENTS

Pilot Project Grants
• Hardy Kornfeld, MD: Impact of Diabetes on TB Disease
• Douglas Ziedonis, MD: Addressing Tobacco through Organizational Change (ATTOC) in China

Travel Grants
• Tara Babu, MS-4: Cytokine Response in Malaria Infections
• Carol Bova, PhD, RN, ANP: Exploring the Healthcare Needs of Rural Women in Armenia
• Stuart Levitz, MD: ID Visiting Professorship (Dr. Thomas Harrison)
• Yungsheng Ma, MD, PhD: UMMS and Tongji Medical Schools: Preventive Medicine Research Collaboration
2010 OGH PILOT PROJECT GRANTS

• Ann Moormann, PhD, MPH (Pediatrics)
  – Qualitative Measurements of Measles Virus Immunity from a Prospective Pediatric Cohort Study in Kenya

• Meredith Walsh, MPH, RN (GSN)
  – Addressing Barriers to the Adoption of IUDs Among Women Seeking Post-Abortion Care on the Thai/Burma Border
2010 OGH TRAVEL GRANTS

FALL, 2010

• Roger Davis, PhD, PMM: First South American Spring Symposium on Signal Transduction and Molecular Medicine
• Patricia McQuilken, MD, Pediatrics: Assessing the Impact of a Pediatric Training Program in Liberia
• Thomas Peteet, MS-1: Impact of International Volunteer Service on Community Health in Uganda's Mukono District

SPRING, 2010

• Alan Picarillo, MD, FAAP: Strengthening Neonatal Resuscitation Capacity in Liberia
• Robin Toft Klar, DNSc, RN and Rosemary Theroux, PhD, WH Women’s Self-Care Practices in Ghana
• Max Fraden, MS-1: The Nuru Light: A Solution to Africa’s Lighting Crisis
• Alison Lima, MS-1: Cape Verde Research and Language Immersion Project
CURRENT GLOBAL HEALTH RFAs

Gates Foundation Grand Challenges Exploration

• An initiative to encourage innovative and unconventional global health and development solutions

• Proposals are being accepted on the following topics:
  – New Approaches for the Interrogation of Anti-malarial Compounds
  – Aid is Working. Tell the World
  – Design New Approaches to Optimize Immunization Systems
  – Explore New Solutions in Global Health Priority Areas
  – Protect Crop Plants from Biotic Stresses From Field to Market

• Initial grants are US $100,000 each, and projects showing promise will have the opportunity to receive additional funding of up to US $1 million.

• Application due date: May 15, 2012

University of Massachusetts Medical School
CURRENT GLOBAL HEALTH RFAs

Gates Foundation HIV Diagnostic

• Identification of novel biomarkers that can be used effectively to measure HIV incidence at the population level.

• Individual grants will not exceed US $1 million.

• Application due date: May 18, 2012
CURRENT GLOBAL HEALTH RFAs

NIH US-China Program for Biomedical Collaboration

• The purpose of the U.S.-China Program for Biomedical Collaborative Research is to stimulate collaborative basic, translational, and applied research between United States (U.S.)-based researchers and Chinese researchers in the areas of allergy, immunology, and infectious diseases including HIV/AIDS and its co-morbidities and co-infections, cancer, mental health, Parkinson’s disease (PD), and stroke.

• Application due date: August 18, 2012
CURRENT GLOBAL HEALTH RFAs

Fogarty International Research Training Award: Chronic, Non-Communicable Diseases and Disorders Across the Lifespan (NCD-LIFESPAN) (D43)

• Funding for collaborative research training between institutions in the US and low-and middle-income countries (LMIC), with the ultimate goal of implementing evidence-based interventions relevant to their countries.

• Application due date: Sep 21, 2012.
Various Student/Trainee Global Health Funding and Internship Opportunities

- A list of ongoing international travel scholarships, as well as fellowship and training programs focused on global health. Click to download. For information on Global Health internship opportunities please see the Internship Opportunities list. Click to download.