Activities Report
July 2014 - June 2015
Welcome to Global REACH

Dear Colleagues and Friends,

As we begin a new academic year, we invite you to pause with us to reflect on our experiences and progress over the past year. Our 2014-2015 activities report is filled with examples of achievement and inspiration that have been of great impact to our own locale of academia, as well as to the communities worldwide with which our faculty and learners have interfaced. Many of these activities were facilitated by Global REACH (the University of Michigan Medical School’s international initiative). We’re delighted to also note the diversity of initiatives that were often carried out independently by members of our community including learners, faculty, and staff across the health system.

In the past year, we have emphasized the value of partnership, and the cultivation of a global health community here at our medical school. This has been done through providing opportunities for dialogue and discovery among our Faculty Associates, and improving our communications stream to share accomplishments, opportunities for collaboration, and funding announcements. We have also initiated a Faculty Affiliates Program to connect with individuals doing important global health work in other units on our campus.

Our connections with student-run groups such as the Progressive Health Partnership (an NGO led by MD/PhD student Joshua Greenberg) and our student-organized Sujal Symposium, have created a link to our undergraduate community that we hope will continue to grow. We have invited global health thought leaders including Mike Merson, MD (Director of the Duke Global Health Institute), Jean Nachega, MD, PhD (Professor Extraordinary at Stellenbosch University, South Africa), and Tachi Yamada, MD (Former Head of Gates Foundation’s Global Health Program) to inspire and challenge us to expand our thinking about future possibilities for our global initiatives. And last, we have engaged a multi-disciplinary Advisory Board with global health experts representing the Business School, Institute for Social Research, School of Nursing, School of Public Health, School of Social Work, and College of Engineering. This group provides guidance to our Global REACH leadership team on building and strengthening global health collaborations.

The fruits of our efforts are reflected in the pages ahead, where you will get a glimpse of the robust synergistic relationships we are establishing in our platform countries, the breadth of research being conducted around the globe by UMMS faculty, and the rich educational exchanges that are taking place between UMMS and our international partners.

Sincerely,

Joseph C. Kolars, MD  
Josiah Macy, Jr., Professor of Health Professions Education  
Senior Associate Dean for Education and Global Initiatives  
University of Michigan Medical School
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Global REACH Team
Global REACH was founded in 2001 by Medical School Dean James Woolliscroft to explore the value of creating an institution-wide unit to leverage existing international activities, create opportunities for synergy, and expand offerings for medical trainees. More than a decade later, Global REACH is driven by the following mission, vision, values, and strategies.

**VISION**

Global REACH aims to be a nationally recognized leader for developing individuals and programs to improve health and healthcare through collaborative partnerships in other countries.

**MISSION**

- Enable students, trainees, and faculty to develop high impact careers in global health
- Create partnerships that allow our medical school community to collaborate synergistically to improve global health
- Advance education and research in global health, particularly on the “science of collaboration,” while cultivating a community of educators and scholars
- Demonstrate the value of global health initiatives to the Medical School and University

**VALUES**

- Mutually beneficial, transparent, egalitarian relationships
- Health equity and a commitment to addressing health disparities
- Capacity building through education, training, and research
- Sustainability, integrity, and interdisciplinary approaches

**STRATEGIES**

- Establish platforms, such as multi-departmental, multi-disciplinary collaborative efforts, that foster synergistic innovation and cutting edge research to address global health challenges
- Convene and connect members of our school and institution to advance programs and careers in global health; leverage current strengths to benefit others in our community
- Build mentoring programs for students, trainees, and faculty
- Create and strengthen meaningful experiences for students, trainees, and their mentors
- Fund pilot projects and new initiatives that advance the mission with a focus on our values; provide consultation on approaches to external funding
- Provide technical assistance for training and educational programs offered through the Medical School
Overview of Activities: 2014-2015

Global REACH tracks several metrics to measure success in global health initiatives at UMMS.

COLLABORATION...pages 4-23

131 Global REACH Faculty Associates representing 30 different UMMS units are conducting research in 74 countries across 6 continents
13 UM Faculty from 8 different campus units became Global REACH Faculty Affiliates
23 Memoranda of Understanding link UMMS with international partners

RESEARCH...pages 24-35

$145M in extramural grants related to global health were secured by UMMS faculty in 2014-2015*
100+ global health publications were authored by Global REACH Affiliates/Associates/Staff
70+ funding announcements were disseminated through Global REACH alerts

EDUCATION...pages 36-63

47 UMMS students traveled to 20 countries in FY2014-2015
35 UMMS students were supported by Global REACH for international work
21 M4 international clinical electives/rotations were funded by Global REACH
13 M1 students took part in Global REACH faculty-led international research projects
17 global scholars/fellows visited UMMS from 6 countries for 92 months of collaboration
48 international students visited UMMS from 11 countries for 110 months of training

*Data Source:
eResearch Proposal Management; 7/24/15
University of Michigan
Many UMMS faculty have longstanding relationships with colleagues from around the world. These working partnerships pave the way for other researchers who are expanding their work into the global health arena, and for medical students looking to gain educational, clinical, and research experiences abroad.

Over time, these partnerships grow into a collaborative network of individuals and groups working to build capacity in low-resource areas. Global REACH facilitates such synergistic partnerships through “platforms for collaboration.” Ideal collaboration platforms foster multi-dimensional translational science — crossing traditional departmental and disciplinary lines to enable innovative research and educational opportunities.

The next few pages illustrate the primary platforms for collaboration from oldest to most recent: Ghana, China, Brazil, Ethiopia, and India.

Photo: University of Michigan President, Dr. Mark Schlissel (front row, fourth from right), is shown at the Peking University Health Sciences Center (PUHSC) with members of the UM delegation who joined him as he made his first official visit to China. PUHSC leaders (also shown) served as hosts during part of his visit.
The University of Michigan has vibrant, long-standing relationships with many institutions in Ghana, which date back nearly four decades. In the early 1980s, Dr. Timothy Johnson, Chair of the Department of Obstetrics & Gynecology at UMMS, partnered with Ghanaian colleagues to develop an in-country post-graduate training program for Obstetrician/Gynecologists that is still in place today. To date, 140 of the 142 graduates of the program still practice or hold leadership positions in Ghana.

The doors opened by Dr. Johnson led to a formalized Ghana-Michigan Platform of Engagement. The Ghana-Michigan Platform is hallmarked by a variety of activities that span departments, disciplines, and institutions.

**Primary Ghanaian Partners:**
- GHS – Ghana Health Service
- KATH – Komfo Anokye Teaching Hospital, affiliated with KNUST (Kumasi)
- KBTH – Korle Bu Teaching Hospital, affiliated with UG (Accra)
- KNUST – Kwame Nkrumah University of Science and Technology (Kumasi)
- MOH – Ministry of Health
- NMIMR – Noguchi Memorial Institute for Medical Research (Accra)
- UCC – University of Cape Coast (Cape Coast)
- UDS – University of Development Studies (Tamale)
- UG – University of Ghana (Accra)

**Platform Highlights: FY2014-2015**

- **Northern Pacific Global Health Research Training Consortium**
  Funded in Summer 2012 by the Fogarty International Center, this five-year grant supports the research training of doctoral and postdoctoral fellows from the health science fields. The University of Michigan (UM) is a member institution in the Northern Pacific Global Health Research Training Consortium, which is one of several partnerships across the United States that hosts the Global Health Fellowship Program. One of UM’s primary placement locations is Ghana. See Pages 58-59 for information on former and new fellows.

- **PREMAND: Preventing Maternal And Neonatal Deaths**
  Dr. Cheryl Moyer, Associate Director of Global REACH and Assistant Professor in the Departments of Learning Health Sciences and Obstetrics and Gynecology, and colleagues at the Navrongo Health Research Centre in northern Ghana were awarded $1.44M by USAID-Ghana to implement a 3-year project identifying and mapping maternal and neonatal deaths and near-misses in rural northern Ghana. The project is described in detail on Page 26.
• Ghanaian Medical Library Named After UM OBGYN Chair
  Dr. Timothy Johnson has been partnering with Ghanaian colleagues to develop an in-country post-graduate training program for Obstetrician/Gynecologists since the 1980s. This decades-long collaboration between UM and Ghana has resulted in activities that span departments, disciplines, institutions, and even philosophical approaches to addressing global health challenges and tackling health disparities.

  In appreciation for his contributions and as a tribute to the impacts he has made within the arena of maternal health education, the Family Health Hospital and Medical School have honored Dr. Johnson by naming the Medical School’s library after him. The Tim Johnson Library Complex sits within the Family Health Medical School, the first private medical school in the sub-region and one that was established due to Dr. Johnson’s mentorship.

• Ghana-Michigan Postdoctoral and Research Trainee NETwoRk - Investing in Innovation (PARTNER II)
  Dr. Tom Robins (PI), School of Public Health and UMMS, and Dr. Cheryl Moyer (co-I), Departments of Learning Health Sciences and Obstetrics & Gynecology, and Global REACH, hosted a cohort of 6 post-doctoral fellows during 2014-2015, including four fellows from Ghana. Fellows spent 6 months in Ann Arbor, followed by 6 months in Ghana. The fellows and their UM mentors are shown in the photo at right. (See Pages 56-57 for more information.)

• Addressing Maternal Mortality
  Dr. Frank Anderson, Associate Professor in the Department of Obstetrics and Gynecology, has been working on several projects in Ghana, including documenting the factors that led to the retention of the more than 140 OBGYNs trained in Ghana since the 1980s, as well as demonstrating the impact that OBGYNs have on health facilities and the health system. One example is electronic fetal monitoring. Dr. Anderson and colleagues have shown that through the implementation of known technologies adapted to the local setting, stillbirth and early neonatal mortality can be significantly reduced. Dr. Anderson is also working to improve community-level maternal mortality surveillance. Working with students from the Minority Health International Research Training program and colleagues at the Ghana Health Service, these research activities have resulted in the development of a simple 4-question survey to provide surveillance for maternal mortality at the community level.

“Maternal health is a human rights issue, and we have seen how critical academic partnerships can be in transforming medical care around the world. Ghana has left such a deep mark on me, and it’s touching to see that there are people in Africa who feel similarly about the role our institution has had on their lives.”
—Timothy Johnson MD
Ghana Platform

• Ghana-Michigan Emergency Medicine Partnership
The Medical Education Partnership Initiative (MEPI) is an NIH-funded program to enhance medical education in Africa. KNUST and UM have enjoyed a MEPI partnership since 2009, and while formal funding ended in 2014, work continues to train more physicians and nurses in Emergency Medicine, build research capacity, and enhance interdisciplinary training. MEPI was led by Principal Investigator, Professor Peter Donkor, former Pro Vice-Chancellor, KNUST. Dr. William Barsan, Professor and former Chair of UM’s Department of Emergency Medicine, served as lead from UMMS with the majority of the on-the-ground leadership provided by Dr. Rocky Oteng.

While the MEPI program awaits the potential for future funding, the broader Ghana Michigan Emergency Medicine Collaborative (GMEMC) shows no signs of deceleration. As of September 2015, 21 emergency medicine residents will have graduated from the residency training program in Kumasi, with an additional 27 residents still in training. What began as a one-year diploma program in emergency nursing has transitioned to a 2-year Bachelors of Science in Emergency Nursing program, and to date, more than 100 nurses have completed or are currently in this program.

The GMEMC is also working with St. Paul’s Hospital Millennium Medical College (SPHMMC) in Ethiopia to facilitate a Ghanaian/Ethiopian partnership to advance emergency medicine training. Such a “south-south” collaboration will allow SPHMMC to learn from Ghana’s challenges and opportunities in starting their own emergency medicine training program.

• A Comparison of Contraceptive Acquisition
Dr. Vanessa Dalton, Associate Professor in Obstetrics and Gynecology, and Dr. Sarah Rominski, Senior Research Associate at Global REACH, are working with colleagues in Kumasi, Ghana, to conduct a study focused on contraceptive preferences and long-term utilization of modern family planning methods. Specifically, Drs. Dalton and Rominski and their colleagues in Ghana are interested in the relationship between women’s preferences regarding various methods of modern contraception and long-term continuation. Women presenting at the family planning clinic at the Komfo Anokye Teaching Hospital will be interviewed before and after their initial visit and then again at 4 and 6 months post initiation to determine the relationship between choice and continuation.

Shown above are some of the Ghanaian and UMMS collaborators in the Ghana-Michigan Emergency Medicine Partnership

A family planning nurse at Komfo Anokye Teaching Hospital Family Planning Unit completes post-visit documentation
Ghana-Michigan Otolaryngology-Head and Neck Surgery Partnership
The Department of Otolaryngology-Head and Neck Surgery at Michigan continues to expand its partnership with the KATH Otolaryngology Department in Kumasi and the KNUST School of Medicine. The department has worked with its Ghanaian partners to construct a state-of-the-art temporal bone laboratory, the first in West Africa, that has been instrumental in expanding capacity for otologic surgical training and care provision in Ghana. In addition to the teaching opportunities provided by the temporal bone laboratory, in-country training of surgeons in the operating rooms at KATH continues, with 2 weeks of intensive surgical training for faculty, fellows, and residents completed. These mini-fellowships, directed by faculty from Michigan and assisted by senior surgeons in Ghana, provides KATH surgeons hands-on training in otologic surgery. In addition to these hands-on initiatives, which are planned quarterly, the department has sponsored senior surgeons from KATH to attend the department’s annual temporal bone course and observe otologic surgery at Michigan.

Michigan and KATH/KNUST will be holding a joint head and neck surgery dissection workshop that will be drawing surgeons from the entire country of Ghana in the Fall of 2015. This course will be given at KNUST in the anatomy lab and will involve faculty from both Universities. The Department will also begin an ACGME-accredited rotation for Michigan residents in the Department of Otolaryngology at KATH in the summer of 2016. This opportunity will also allow KATH residents to come to Michigan to observe a range of specialty-specific cases.

Midwifery in Ghana: Role Modeling and Rural Retention
Dr. Jody Lori, Associate Professor of Nursing, Dr. Cheryl Moyer, Assistant Professor of Learning Health Sciences, and Dr. Sarah Rominski, Senior Research Associate at Global REACH, are working with a team of investigators in Ghana to explore factors influencing third-year Ghanaian midwifery students’ willingness to work in rural areas, as well as exploring what final-year trainees report learning during their clinical training. Preliminary results suggest role modeling by preceptors has a powerful influence on trainees. The study takes place in the 16 public midwifery schools throughout Ghana and includes more than 700 final-year midwifery students.

Cholera in Accra
Dr. Kimberley Seed, Assistant Professor of Molecular, Cellular and Developmental Biology, is working with a team of investigators at the University of Ghana Department of Microbiology and Ghana Health Service Disease Surveillance Department to improve active surveillance of cholera in Greater Accra. This study will characterize epidemic clones of *Vibrio cholerae* circulating in Accra and provide insight into the factors influencing epidemic occurrence.
The University of Michigan Medical School (UMMS) has a long history of clinical, educational, and research initiatives with Chinese partners, both at the individual and the institutional level. Much of the Medical School’s collaborative work with China focuses on the Joint Institute (JI) for Translational and Clinical Research, a partnership between the University of Michigan Health System (UMHS) and the Peking University Health Science Center (PUHSC), which was established in 2010. Additional initiatives beyond the JI are equally important in developing and sustaining the rich partnerships between the Medical School and educational institutions throughout China.


In addition to many formal faculty and student visits to the University of Michigan Medical School (see Pages 60-63), the following China Platform highlights occurred during this reporting period:

- **July 2014:** Dr. Hongtao Wu from Central South University began a one-year training program at the Department of Urology under the mentorship of Dr. Evan Keller.
- **July 2014:** 30 faculty and students from Taiwan participated in a training program at the UM School of Public Health.
- **Summer 2014:** Dr. Amy Huang visited Harbin Medical School and Peking Union Medical College to discuss current and potential collaborations.
- **Summer/Fall 2014:** Through the University of Michigan-PUHSC collaborative MD/PhD program, two PUHSC students were enrolled into the UM Program in Biomedical Sciences (PIBS). In addition, three PUHSC students participated in month long electives at UMHS and four students were accepted for research rotations at UMMS for Summer 2015.
- **Fall 2014:** Five students from Central South University Xiangya School of Medicine began a two-year research training program at UMMS. Another seven Xiangya students began their training in Summer 2015.
- **September 2014:** Dr. Joseph Kolars visited Beijing and participated in the 100th Anniversary Celebration of China Medical Board.
- **September 2014:** A delegation of 25 from China attended the international conference “Health Management: Connecting China to the US,” which was held in Ann Arbor. Dr. Amy Huang presented the structure of Joint Institute.
- **September 2014:** Five Shanghai Jiao Tong University guests of the College of Engineering visited the Medical School, toured the hospitals and met with leadership to introduce their new Council Chair.
- **October 2014 – March 2015:** Dr. Xin Zhou from Peking Union Medical College spent 6 months in the Learning & Health Sciences department becoming familiar with procedures and principles of educational administration and participating in a research project on mental health in first-year interns.
- **October 2014:** More than 100 PUHSC alumni, friends, faculty, and staff participated in the PUHSC alumni event hosted in Ann Arbor. Read more on Page 67.
- **February 2015:** PUHSC delegation (Mr. Yu Wang, Professors Shandong Xu, Yan Xu, Lei Guo) visited with faculty in MICHIR, Learning Health Sciences, and Medical Student Education.
- **March 2015:** Dr. Michael J. Lipson, Assistant Professor from Department of Ophthalmology and Visual Sciences, UMMS, visited PUHSC and PUMC.
- **May 2015:** The National Taiwan University Delegation (Drs. Shan-Chwen Chang, Yen-Hsuan Ni, Tsai-Kun Li) visited UMMS. The delegation toured University Hospital and met with several members of UMMS to discuss opportunities of collaboration.
China Platform-Joint Institute

UMHS-PUHSC Joint Institute for Translational and Clinical Research
The Joint Institute for Translational and Clinical Research between the University of Michigan and the Peking University Health Science Center (PUHSC) was formalized in 2010. The two institutions created an organizational structure, established key research programs, and developed a strategic plan designed to encourage research collaborations among faculty. Four disease areas and three infrastructure cores currently guide the partnership initiatives.

Focusing on research in cardiovascular, liver, pulmonary, and renal diseases – areas of interest to both institutions – JI leaders maximize their capacity for translational research through synergistic collaborations. Infrastructure “cores” work through potential issues and concerns, including human protection, biorepository and biomedical informatics, as well as research on the science of collaboration. Each program and core are co-led by a faculty member from PUHSC and UMMS. Overall JI leadership responsibility belongs to Dr. Joseph Kolars, Senior Associate Dean for Education and Global Initiatives, UMMS, and Professor Weigang Fang, Vice President, PUHSC. They are advised by an Executive Board and an Executive Committee.

Joint Institute Highlights: FY2014-2015

- **July 2014**: Professor Fang Wang from PUHSC First Hospital Renal Department, began a one-year International Society of Nephrology fellowship at the UM Kidney Epidemiology and Cost Center under the mentorship of Dr. Saran Rajiv.
- **Summer 2014**: Two fellows were funded by the Fogarty NIH Global Health Research Training Grant for one-year fellowships at PUHSC. Read more on Page 58.
- **October 2014**: The Fourth Annual Symposium of the Joint Institute for Translational and Clinical Research was held in Ann Arbor, Michigan. Read more on Pages 66-67.
- **December 2014**: Dr. Joseph Kolars attended the Peking University Healthcare Forum and participated in the Opening Celebration of Peking University International Hospital.
- **December 2014**: Dr. Margit Burmeister visited several Chinese hospitals to discuss potential collaboration on an international health study.
- **Winter 2015**: Six UMMS M4 students did clinical rotations in Taiwan and three M4s completed electives in China.
- **January 2015**: A request for proposals was released to fund pilot projects that would demonstrate an effective team approach to discovery and new findings on diseases relevant to both countries. Seventeen applications were received and seven awards were made (see right panel on Page 13).
- **April 2015**: Professors Qiudan Sun and Weiming Wang from PUHSC visited UM and met with faculty in MICHR, Learning Health Sciences, and Medical Student Education, and toured University Hospital and the Clinical Simulation Center.
- **April 2015**: Professors Huiying Qi and Shibin Song from the PUHSC BRBI team visited UM.
- **Summer 2015**: Dr. Mark Schlissel traveled to China on his first official international tour as President of the University of Michigan. He was accompanied by a delegation of several UM academic leaders.
- **Summer 2015**: Three M1 students participated in the Faculty-led Summer Project. Read more on Page 42.
Research Program Updates

Cardiovascular Program

Leadership for the cardiovascular program is shared by Dr. Eugene Chen, Frederick G.L. Huetwell Professor of Cardiovascular Medicine, Professor of Internal Medicine, UMMS and Professor Wei Gao, Chair of Cardiovascular Medicine, PUHSC Third Hospital. The JI’s cardiovascular team has initiated several important studies designed to significantly advance understanding about the genetic basis of cardiovascular disease; in particular: studying the role genetics plays in the development of risk factors such as high blood pressure and atherosclerosis, as well as in the onset of cardiovascular diseases, including myocardial infarction, abdominal aortic aneurysm, and coronary artery disease. Dr. Guohua Xi recently received an R01 grant of $1.09M from NIH for his proposal based on the JI project. Six peer-reviewed papers have been published from the collaboration and two manuscripts are under preparation.

Liver Disease Program

Led by Dr. Chung Owyang, Division Chief and Professor of Gastroenterology, UMMS, and Professor Lai Wei, Director of the Hepatology Institute and Department of Hepatology, PUHSC Second Hospital, the JI’s liver disease program focuses on treating and preventing Hepatitis C virus (HCV) and the Irritable Bowel Syndrome (IBS). Dr. Anna Lok and Professor Wei co-lead the HCV project on the incidence and risk factors for hepatitis C virus related cirrhosis and carcinoma project, which has enrolled nearly 2000 patients to date. Three peer-reviewed papers have been published and seven abstracts have been presented at international conferences. The IBS project, co-led by Dr. Chung Owyang and Professor Liping Duan, Professor and Vice-Chair of Division of Gastroenterology, PUHSC Third Hospital, investigates the effect of diet and racial factors on the gut microbiota of patients with IBS and aims to fingerprint the microbial composition of a subpopulation of IBS patients who may respond to antibiotic treatment.

Pulmonary Program

Dr. Margaret R Gyetko, Professor of Internal Medicine and Associate Dean for Faculty Affairs, UMMS, and Professor Bei He, Professor and Director, Department of Respiratory, PUHSC Third Hospital, co-lead the JI’s Pulmonary Disease Program. This program focuses on building a new area of research investigating the role that the respiratory microbiome plays in the development and clinical course of lung disease, specifically Chronic Obstructive Pulmonary Disease (COPD). Dr. Steven Huang, Assistant Professor of Pulmonary and Critical Care Medicine, UMMS, and Professor Yahong Chen, Associate Professor of Pulmonary Medicine, PUHSC Third Hospital, co-lead the asthma project, which seeks to understand the extent to which asthmatic patients in China are affected by ambient air pollution and determine how epigenetic mechanisms contribute to the ability of air pollution to worsen asthma severity.

Renal Disease

The renal disease research program is co-led by Dr. Matthias Kretzler, Professor of Nephrology, Internal Medicine, UMMS, and Professor Minghui Zhao, Professor of Nephrology, PUHSC First Hospital. The UMMS and PUHSC renal divisions are at the forefront of translational glomerular disease research in the US and China and have joined forces to address the most urgent unmet need in the field, which is early and accurate identification of patients at high risk to progress to end stage renal disease for targeted treatments. The Chronic Kidney Disease (CKD) project compares large, currently available population-based databases from China and the United States to specifically focus on CKD and its risk factors in the two nations. One manuscript based on the JI project is in preparation.

Other Collaborative Projects and Core Updates

Radiology - Multiple Myeloma

The multiple myeloma project, co-led by Dr. Qian Dong, Associate Professor of Radiology, UMMS, and Professor Wei Guo, Chair of Orthopedic Oncology, Second Hospital, PUHSC, seeks to discover clinically translatable magnetic resonance imaging (MRI) metrics that would provide a predictive biomarker to identify disease stage and assess treatment response in multiple myeloma. Quantitative data from computerized image analysis and MRI should improve the accuracy and efficacy of the staging and the assessment of treatment response for multiple myeloma.
Esophageal Cancer (EC)
This project, co-led by Dr. Jun Li, Associate Professor of Human Genetics, UMMS, and Professor Yang Ke, Professor of Oncology, PUHSC, aims to reveal major genes and pathways affected in each EC patient. It is using a uniquely powerful clinical resource developed at PUHSC and strong statistical analysis expertise at UM to characterize intratumoral heterogeneity by comparing genomic alterations in different sectors of the same tumor, and contrasting them with surrounding normal tissues as well as the metastatic tumors in nearby lymph nodes.

Epigenetic Effects of Prenatal Environment
Cognitive and social-emotional impairments are a pressing public health concern in the US and globally. Understanding early origins of such impairments and identifying potentially modifiable factors are a high priority. Dr. Margit Burmeister, Professor of Psychiatry, Molecular and Behavioral Neuroscience Institute, UMMS and Professor Ming Li, Professor of Pediatrics, PUHSC First Hospital co-lead the pilot study that explores epigenetic changes and neurodevelopmental outcome with real-life prenatal exposures.

Collaboration Core
The Collaboration Core is co-led by Dr. Amy Huang, Director for China Programs, UMMS and Professor Qiudan Sun, Director for Office of International Cooperation, PUHSC. This Core tracks the collaboration needs and goals of each institution, defines measures of success, and identifies the management structures and processes that lead to favorable outcomes. In addition, the Core assists JI leadership in formulating strategies related to communication, project management, and coordination by providing advice and guidance to the programs and leadership.

Institutional Review Board and Human Protection Core (IRB)
The IRB and Human Protection Core is co-led by Dr. Raymond Hutchinson, Associate Dean for Regulatory Affairs and Professor of Pediatrics & Communicable Diseases, UMMS, and Professor Yali Cong, Professor of Medical Ethics Program, PUHSC. The central mission of the Joint Institute’s IRB and Human Protection Core is to ensure that all JI collaborations meet the human protection standards in place at both universities.

Biorepository and Biomedical Informatics Core (BRBI)
The BRBI Core is co-led by Dr. Kai Zheng, Assistant Professor, School of Public Health, UM, and Professor Yanfang Wang, Associate Director, Peking University Clinical Research Institute, PUHSC. This Core is responsible for establishing and maintaining a standardized process for securing and storing biological specimens and clinical data that supports the Joint Institute’s research. All Joint Institute programs and investigators are required to follow the standards established by the BRBI Core.
University of Michigan Medical School (UMMS) faculty members have been collaborating with partners in Brazil for several decades. In Fall 2012, former UM President Mary Sue Coleman traveled to Brazil and signed several collaboration agreements with institutions, including the University of São Paulo Medical School (FMUsp), the Biological Sciences Institute (ICB), and the State of São Paulo Research Foundation (FAPESP). In July 2014, a Memorandum of Understanding (MOU) with Federal University of Bahia (UFBA) was also signed.

Nearly two-dozen clinical, educational, and/or research projects are currently underway between members of the University of Michigan and their colleagues in Brazil. Involving more than 15 medical disciplines, several of these key research partnerships form the basis of the Brazil Platform. Many of these partners participated in the first UM-Brazil Platform Symposium, which took place in Ann Arbor in November 2014.

- **September 2014:** Dr. Alexandra Minna Stern (UMMS OBGYN) became the new Director for the Center for Latin American and Caribbean Studies (LACS) and for the UM Brazil Initiative. Continuing her long-standing collaboration with colleagues at Rio de Janeiro’s Fundação Oswaldo Cruz (FIOCRUZ), she has been working closely with Global REACH to support faculty and student research and collaboration in the health sciences.

- **October 2014:** Drs. Steven Kasten and Robert Gilman, from Plastic Surgery, and Dr. César Briceño, from Ophthalmology, traveled to São Paulo with Brazil Platform manager Dr. Elisa Duarte Teixeira to visit FMUsp and discuss the exchange of residents, as well as scientific and academic collaborations.

- **November 2014:** The first UM-Brazil Platform Symposium took place in Ann Arbor. Twenty collaborators from Brazil and nearly 30 from UM presented their work. Drs. Michele Heisler and Alexandra Minna Stern served as co-chairs of the symposium. See Pages 70-71 for details.

- **December 2014:** Dr. Fabiana Faleiros Santana, University of São Paulo Nursing School in Ribeirão Preto, arrived to spend three months at the UM Spinal Cord Injury Model System under the mentorship of Drs. Denise Tate and Marty Forchheimer. She worked on common methods of assessing bladder and bowel problems after spinal cord injury. Drs. Tate and Santana are now working on signing an MOU.

- **Winter 2015:** Five UMMS medical students were selected to participate in the Global REACH sponsored Faculty-Led Project in Brazil. See Page 41 for more information. The students participated in bi-weekly sessions of medical and conversational Portuguese facilitated by Dr. Elisa Duarte Teixeira.

- **January 2015:** Four FMUsp medical students (Ana Flávia Garcia, Edgard Katayama, Ligia Couceiro, and Wellington Candido) arrived in Ann Arbor for a 2-month observership at UMMS under the mentorship of Drs. Denise Tate and Marty Forchheimer. She worked on common methods of assessing bladder and bowel problems after spinal cord injury. Drs. Tate and Santana are now working on signing an MOU.

- **February 2015:** Dr. Michele Heisler spent a month sabbatical in Brazil working with Dr. Alexandra Brentani and other collaborators on their joint projects and planning for the summer visit of UMMS medical students. She was joined by Dr. Senait Fisseha, from OB/GYN, who visited FMUsp Gynecology Department to discuss the continuation and expansion of the collaborations in Human Reproduction (Read more on Page 17).
March 2015: Dr. Elisa Duarte Teixeira and Dr. Michele Heisler went to São Paulo to hold meetings with current and prospective collaborators and to plan for the July 2015 visit to UMMS of FMUSP’s new Dean, Dr. José Otávio Auler, and the new Director of their International Relations Commission Office, Dr. Aluísio Segurado.

April 2015: Dr. Denise Tate, Physical Medicine and Rehabilitation, presented on the international spinal cord injury datasets and their use in rehabilitation clinical trials for spinal cord injury patients to a group of physicians and rehabilitation clinicians and researchers at the Lucy Montoro Rehabilitation Hospital in São Paulo. While there, she met with Dr. Linamara Battistella, FMUSP Professor and Secretary of State of Disability Affairs for the State of São Paulo, to discuss research collaborations between the two universities, State and National organizations.

April 2015: Drs. Remo Susanna and Mirko Babic, from Ophthalmology at FMUSP, visited the Kellogg Eye Center (Read more on Page 16).

May 2015: UMMS M1 medical students, James Hammond, Mayra Gomez, and Bill Mallett, were selected to participate in the inaugural University of São Paulo Winter Medical School. They attended the course Neglected Tropical Diseases: Health Challenges in Brazil in the 21st Century, offered by the FMUSP Department of Infectious Diseases. Read more below.

May 2015: Dr. Marcos Montagnini, Professor of Internal Medicine and Director of Hospice and Palliative Medicine Fellowship Program at the VA, went to Brazil to discuss residency exchanges in geriatrics and palliative medicine and the creation of a post-graduate program in neuropalliation.

June 2015: Drs. Edmund Baracat, Gustavo Maciel, and José Maria Soares (all from FMUSP Gynecology) visited the UMMS Department of Obstetrics and Gynecology (Read more on Page 17).

FMUSP Winter Medical School
Fifty-two students and fellows from Brazil, the United States, and 17 other countries participated in the first FMUSP Winter Medical School, an intensive two-week program, all taught in English. The course was free of charge to accepted students and FMUSP provided room and board and a calendar filled with exciting academic, clinical, and social activities.

Course concentrations included neglected tropical diseases; disease prevention, health promotion and vulnerability reduction; principles of cancer prevention and cancer control; radio-pathological interactions in the autopsy room; and practical aspects of modern cardiology.

Facebook page: www.facebook.com/fmuspwinterschool
Brazil Platform

Select Research Program Highlights

Ophthalmology and Visual Sciences (OVS)

In early 2014, UMMS faculty members Drs. César Briceño and M. Bernadete Ayres began initial communications with Brazilian partners in the UMMS-Brazil Platform to explore potential OVS collaborations. FMUSP ophthalmology faculty and leadership were very enthusiastic about hosting an exploratory visit aimed at discussing the exchange of residents and potential scientific collaborations. Dr. Briceño’s trip to São Paulo in October 2014 and the November 2014 UM-Brazil symposium in Ann Arbor provided concentrated opportunities for discussion and marked the beginning of a promising collaboration.

In April 2015, the Kellogg Eye Center (KEC) hosted two lecturers from FMUSP: Dr. Remo Susanna, Chair of Ophthalmology, and Dr. Mirko Babic, a specialist in glaucoma. Their talks highlighted the high volume of patients and major research endeavors at FMUSP, including a focus on a water-drinking-test used as an effective surrogate for measurement of peak intraocular pressures and as a reliable predictor of patients who are at high risk of vision loss from glaucoma. Dr. Susanna also met with the KEC telemedicine group, led by Dr. Maria A. Woodward, and is especially excited about the ongoing joint Kellogg-FMUSP research protocol involving the use of smart phone photographs in the diagnosis of eyelid lesions. A 3D printed portable slit lamp developed by Dr. Woodward’s team will be tested at FMUSP later this year. Also in April, Dr. Paul Lee, Director of KEC, traveled to Brazil to tour FMUSP ophthalmology facilities and to meet with leadership of the International Relations Commission Office (CRInt).

Additional collaborative activities in 2015 included a one-month observership at KEC for the first FMUSP exchange resident, Dr. Amanda Viel Sanchez, to help develop the UMMS-FMUSP collaboration on telemedicine; and a July visit by FMUSP Dean, Dr. José Otávio Auler Jr., and CRInt Director, Dr. Aluísio Segurado. In December 2015, Dr. Briceño will host a symposium at FMUSP focusing on Oculoplastics, as part of their annual ophthalmology congress – the second-largest yearly ophthalmology meeting in South America. Other KEC faculty will join him for the meeting and then he will travel to Rondônia to visit the ICB-5 branch of the University of São Paulo Institute of Biomedical Sciences (ICB), to plan for the UM-ICB multidisciplinary group visits to the Amazon Region starting Summer 2016.

A visit from FMUSP ophthalmology faculty in April 2015 included a dinner hosted by the UMMS Department of Ophthalmology and Visual Sciences

(left-right) Dr. Elisa Duarte Teixeira (Global REACH), Dr. Remo Susanna (FMUSP), Visiting Scholar Priscila Novaes Pedreira (Brazil), and Drs. Jonathon Trobe, César Briceño, and Kaz Soong (UMMS)
Obstetrics and Gynecology
The UMMS-FMUSP collaboration in reproductive endocrinology and technology dates back more than a decade and provided an important foundation for the creation of the Brazil Platform at Global REACH. For several years, UMMS Professor of Obstetrics & Gynecology (OBGYN), Dr. Gary Smith, served as off-site scientific director of the Huntington Centers for Reproductive Medicine of Brazil – a large in-vitro fertilization (IVF) clinic performing over 3,000 cycles per year. The collaborative team completed phase I and II clinical trials, implemented state-of-the-art infertility treatment and fertility preservation technologies, and improved fertility healthcare. They also published 10 collaborative peer-reviewed papers, participated in more than 20 national and international meetings, and exchanged more than 10 physicians, fellows and students from 2004 to 2013.

To build on this earlier reproductive sciences work, UMMS OBGYN Professor, Dr. Senait Fisseha, visited the University of São Paulo in February 2015 and met with FMUSP leadership from the Department of Gynecology and the International Relations Commission Office (CRInt). During her visit, she extended an invitation to Dr. Edmund Baracat, FMUSP Full Professor of Gynecology and President of the Undergraduate Medical Education Commission, and faculty members, Drs. José Maria Soares Jr. and Gustavo Arantes Rosa Maciel, to visit UMMS in the Summer of 2015.

During their visit, Dr. Baracat participated in several activities including a meeting with UMMS Chair of Obstetrics & Gynecology, Dr. Tim Johnson, with whom he developed a plan for strengthening the partnership among the two institutions by focusing on four main areas of mutual interest: PCOS, tumors (especially leiomyoma and breast/ovarian cancers), family planning, and human reproduction, including fertility preservation and premature ovarian failure.

Additional visits are scheduled for later in 2015, including one in November. Dr. Tariq Shah, Director of the IVF/Andrology and Endocrine laboratories at the UM Center for Reproductive Medicine, will travel to São Paulo to conduct a program evaluation with a view of standardizing protocols, and to learn from FMUSP experiences in fertility preservation in cancer patients.
At a Glance: FY 2014-2015

- September 2014: Leaders from various units of Addis Ababa University (AAU) visited Ann Arbor to explore collaborative opportunities through the EM-PACE initiative and to begin planning the January symposium in collaboration with UM partners
- October 2014: UMMS received an award to establish the Center for International Reproductive Health Training (CIRHT)
- January 2015: EM-PACE Symposium held in Addis Ababa
- February 2015: CIRHT family training program launched in Ethiopia
- June 2015: Key leaders from AAU visited Ann Arbor to discuss potential for development of a medical education program at the AAU School of Medicine
- 3 UMMS students chose Ethiopia for a clinical or research experience
- 22 Global REACH Faculty Associates and Affiliates participate in the Ethiopia Platform

More than ten Schools and Colleges across the University of Michigan have collaborative projects underway with colleagues in Ethiopia, making it one of the fastest emerging platforms of engagement in both the Medical School and the broader University. The original collaborations between St. Paul Hospital Millennium Medical College (SPHMMC), the Federal Ethiopian Ministry of Health, and UMMS have expanded to include the Schools of Business, Natural Resources and Environment, Graduate Studies, and Nursing, as well as the College of Engineering.

Within the Medical School, projects with Ethiopian colleagues range from family planning to faculty development; organ transplantation to surgical simulation; and medical education and post-graduate training to heart disease in pregnancy. Native Ethiopian, Senait Fisseha, MD, JD, Associate Professor of Obstetrics and Gynecology, has served as a catalyst for many of these partnerships and has been the conduit to efforts engaging with partners in Ethiopia, opening doors to communications with leaders at various medical schools, hospitals, and within the Ministry of Health.

Center for International Reproductive Health Training

A generous award of $25M to the Department of Obstetrics and Gynecology from an anonymous foundation has supported the creation of the Center for International Reproductive Health Training (CIRHT) at UMHS. Dr. Fisseha has been serving as Executive Director of the Center which has as its central aim the reduction of unintended pregnancies. The Center’s initial focus will be in Ethiopia, where it aims to integrate family planning training in eight medical schools across the country. The training program was officially launched in Ethiopia in February 2015. Once success with the program has been demonstrated in Ethiopia, CIRHT will expand its efforts to implement the training model in medical schools across Sub-Saharan Africa.

In light of her leadership role in capacity building for the healthcare workforce in low-resource countries, Dr. Fisseha has been selected to serve as Director of International Programs for the Susan Buffett Foundation. Though relocating to Omaha, Nebraska, Dr. Fisseha will remain an adjunct faculty member in the Medical School.

As Dr. Fisseha transitions to her new role, Lia Tadesse Gebremedhin, MD, MHA is taking over as the CIRHT Executive Director and Principle Investigator. Dr. Tadesse has come to the University of Michigan from St. Paul’s Hospital Millenium Medical College in Ethiopia, where she served as an Assistant Professor in OB/GYN and in other leadership roles.

“There have been many efforts to improve women’s health in Ethiopia, but there are still significant gaps. CIRHT will help fill some of those gaps by preparing future doctors, nurses and midwives to care for girls and women and save lives.”

—Lia Tadesse Gebremedhin, MD, MHA
Ethiopia Platform


- **EM-PACE Symposium**: The Ethiopia-Michigan Platform for Advancing Collaborative Engagement (EM-PACE) held a symposium in Addis Ababa in January 2015 aimed at defining a strategic plan for collaborative engagement for the University of Michigan in Ethiopia. Read more on the following two pages.

- **EM-PACE Teaching Program Continues**: 16 UMMS graduate students from the UM Program in Biological Sciences (PIBS) served as instructors at three different medical schools in Ethiopia as part of the EM-PACE program during Summer 2014. As an extension of this work, an additional six PIBS students went to Ethiopia to teach in May 2015.

- **New Transplant Center**: Jeffrey Punch, MD (UM Transplant Surgery) has led an effort to create a new Ethiopian National Transplant Center. The lack of dialysis facilities in Ethiopia has rendered kidney failure a fatal disease for those who cannot leave the country for care elsewhere. Transplant surgery is also a hallmark of modern training programs. Aspiring surgeons often leave the country for this kind of training which contributes to “brain drain”. Dr. Punch and his team have been working with the Ethiopian Health Ministry to develop a living donor kidney transplant program, along with a chronic dialysis program. Surgeons, nephrologists, anesthesiologists, nurses, radiologists and other specialists have visited Ann Arbor to observe our transplant program here. The first ever living donor kidney transplants in Ethiopia were performed in September 2015.

- **Residency and Subspecialty Training Programs**: Through collaboration with UMMS, new programs have been developed at SPHMMC in Internal Medicine, Pediatrics, Surgery, Ob/Gyn, and Radiology. Residency programs under development include: Ophthalmology, Pathology, Orthopedic Surgery, Psychiatry, Otolaryngology, Maxillofacial Surgery, Anesthesiology, and Emergency Medicine. Subspecialty / fellowship training programs have been developed at SPHMMC in: Maternal Fetal Medicine/High risk OB, Cardiology, Gastroenterology, Nephrology, Transplant, Pediatric Cardiology, Pediatric Neonatology, In-Vitro Fertilization, and Radiology (Body Image, CT, Musculoskeletal, Interventional).

- **History of Medicine in Ethiopia**: Medicine in Ethiopia has undergone major changes in recent decades, with the opening of multiple new medical schools and establishment of new training programs. Joel Howell, MD (Internal Medicine, History of Medicine) is currently engaged in a project to document the history of the first medical school in Ethiopia. Founded in 1964 by Emperor Haile Selassie, against the advice of western consultants, the new medical school offers a window into the characteristics of a medical school that was created in an economically challenged and largely rural east African country. Particular attention will be paid to the choices made about the school’s leadership and educational structure.

*Dr. Joel Howell (center) is working with Semeneh Ayalew (left), a UM PhD student, and Ethiopian faculty member, Dr. Adem Ahmen, on the History of Medicine project*
• **Ophthalmology:** Drs. Bezawit Tadegegne and Lemlem Tamrat visited the Kellogg Eye Center in May 2015 from the ophthalmology department at St. Paul’s Hospital. Dr. Bezawit is the ophthalmology chair and Dr. Lemlem is the residency program director. The visit was part of a collaboration between St. Paul’s and Kellogg to establish a training program for ophthalmologists at their hospital in Addis Ababa. The new ophthalmology residency program, which would be only the fourth such program in a country of 80 million people, will begin training six residents per year in September 2015. Jonathan Greene, MD, Kellogg assistant professor of Ophthalmology, and Monte Del Monte, MD, Skillman Professor of Pediatric Ophthalmology, are leading the Kellogg team in this effort.

• **Expanding Education Programs:** Dr. John Williams, Horace W. Davenport Collegiate Professor of Physiology and Professor of Internal Medicine, is building on his work with the EM-PACE program by collaborating with two universities as they build capacity for basic medical sciences education. He is consulting with Addis Ababa University as they plan for a Bachelor’s degree in Biomedical Science and with St. Paul’s Millenium Medical School as they consider a Masters of Physiology degree.

• **Future Collaborations:** Two major leadership visits foreshadow new collaborative opportunities between the University of Michigan and institutions within Ethiopia. Representatives from Addis Ababa University and St. Paul’s Hospital and Millennium Medical College visited UM to identify opportunities for collaboration on efforts to improve curriculum in areas such as health education and basic science teaching. The College of Engineering hosted the Chair of the Addis Ababa City Water Master Plan Committee, the Dean of the School of Civil and Environmental Engineering, the Chair of Biomedical Engineering Department, and the Director of Addis Ababa Institute of Technology; and the Director of the Institute of Development Policy and Management.

**EM-PACE Symposium Held in Addis Adaba**

More than 40 University of Michigan (UM) community members, representing 10 different UM schools and units, traveled to Addis Ababa in January 2015 to participate in a symposium assessing the progress that the Ethiopia-Michigan Platform for Advancing Collaborative Engagement (EM-PACE) program has made thus far in expanding collaborations between UM and institutions in Ethiopia, and determining goals for the future. Another 60+ participants came from various universities and medical colleges in Ethiopia, as well as the Ministries of Health, Education, and Science and Technology. The two-day program included sessions led by faculty from both UM and Ethiopia, which focused on education, faculty development, and research collaborations.

The Medical School was one of several UM partners on the EM-PACE grant funded in 2013 to create a transformative platform for collaboration in Ethiopia addressing some of the most pressing problems identified by country leadership. Supported by the Global Challenges for Third Century grant from the Office of the Provost, grant investigators sought to develop and codify a UM model for collaboration in order to position the University as a preferred institutional partner in future collaborative efforts. Nearly three-dozen students from across the UM campus traveled to Ethiopia to work on research projects as part of the grant during Summer 2014. Another group of students closed out funded projects during Summer 2015.
To maximize an approach that created synergy across the multiple disciplines represented, an overarching theme of “Healthy Cities” was identified. Within this theme, three sub-themes were recognized: urban systems (e.g., water, infrastructure, technologies, transportation), vulnerable populations, and human resource capacity building through education (e.g., biomedical sciences, engineering sciences). Discussion and work plans within each group focused on exchange of faculty and learners for purposes of faculty development, inter-professional education, scholarship, practice-based experiential learning that is developmentally appropriate, and advocacy/policy.

Bi-lateral discussions helped to develop a list of actionable tasks on topics of interest to the participants and other stakeholders. Such topics included: seed grants; design of assessment and technology implementation to support humanitarian needs in transportation and health; development of STEM graduate education and research; medical school education and faculty development; water science and technology, health and planning; electrical engineering and computer science; healthy cities; and vulnerable populations.

Faculty at UMMS are now working closely with **Professor James Holloway**, UM Vice Provost for Global and Engaged Education, who is taking an institutional approach to advancing what has been learned from the EM-PACE initiative.
The India Platform within the University of Michigan Medical School (UMMS) has been in development over the past few years. Two key collaborators in this platform are leading institutions in India: the All India Institute of Medical Sciences (AIIMS) in New Delhi and Maharashtra University of the Health Sciences (MUHS) in Maharashtra. UMMS signed a Memorandum of Understanding with AIIMS in 2011 and collaborations were formalized with MUHS through the joint Obama-Singh 21st Century Knowledge Initiative award in 2012.

In November 2013, President Mary Sue Coleman led a UM delegation to India in an effort to build partnerships and strengthen collaborations with Indian institutions of higher education, including AIIMS and Delhi University. Twenty-five faculty, students, and staff from the Medical School accompanied President Coleman as part of the delegation.


- **November 2014:** The University of Michigan and the All India Institute of Medical Sciences held a week-long, intensive course on research methods in New Delhi to foster bi-directional opportunities. Seven faculty members from UM traveled to India for the intensive, hands-on course aimed at improving the quality of research emanating from AIIMS. AIIMS faculty partnered with UM faculty in teaching and running the course, which focused on principles of epidemiology, health services research and basic and laboratory-based science using a hybrid didactic and small-group approach.

  Close to 50 participants from AIIMS and other major medical centers across India participated in the conference. Of these, close to half have subsequently submitted grants in consideration for intra- and extra-mural funding. The course was well received by AIIMS faculty and students and discussions to continue such programs (including here at UM) are ongoing.

- **May 2015:** Tanuj Dada, MD, Professor of Ophthalmology at the Dr. Rajendra Prasad Centre for Ophthalmic Sciences, AIIMS, was a distinguished guest speaker of the Kellogg Eye Center. A graduate of AIIMS, Dr. Dada received the Institute’s gold medal distinction for outstanding research, and as the best undergraduate and postgraduate in ophthalmology. He has authored over 200 peer-reviewed publications and three textbooks on glaucoma and currently serves as secretary general of the International Society of Glaucoma Surgery.

  Dr. Dada’s trip to Ann Arbor complements a visit to AIIMS last year by Kellogg Eye Center faculty Raymond Douglas, MD, PhD, and Shivani Gupta, MD, MPH, when they went to meet with Dr. Dada and tour his institute’s facilities. The exchange visits have elicited excitement about potential joint research projects promoting improved ophthalmic science and patient care.
Summer 2015: A manuscript stemming from the UMMS-AIIMS partnership has been accepted for publication: Agrawal D, Rajajee VK, Schoubel DA, Misra MC, Raghavendran K. A propensity score analysis of the impact of invasive intracranial pressure monitoring on outcomes following severe traumatic brain injury. *Journal of Neurotrauma*, July, 2015.

Summer 2015: The UMMS-India partnership of Drs. Stephanie Bielas and Katta Mohan Girisha received notice of award for their grant application submitted under the NIH “Global Brain and Nervous System Disorders Research Across the Lifespan Funding Opportunity.” Dr. Bielas, who is Assistant Professor of Human Genetics, Neuroscience, and Cell and Molecular Biology at the University of Michigan, will serve as PI for this exploratory/developmental research grant, while Dr. Girisha will serve as Co-PI. Dr. Girisha is Professor and Head, Department of Medical Genetics, Kasturba Medical College, Manipal University (MU), Manipal, Udupi, Karnataka, India. Grant funding of $341K will be split equally between UM and MU throughout the grant period, which runs 9/1/2015 to 8/31/2017.

The investigators believe that improvements in health care have led to a decrease in mortality (including and especially among children) and an increase in life expectancy in LMICs over the past several decades. These positive trends have set the stage for a complex and paradoxical epidemiology of health and disease as more children survive into adulthood and are affected by the sequelae of combined early disorders, malnutrition, and adverse experiences. They propose to address the genetic causes of neurodevelopmental disorders by providing more genetic diagnoses to/for children and their families in an effort to reduce the global burden of inherited developmental disorders.

The goal of this project is to build infrastructure that will allow whole exome sequencing (WES) to be used in the Department of Medical Genetics at MU to identify genetic causes of neurodevelopmental disorders. Infrastructure to achieve this goal include identifying quality sequencing partners, establishing bioinformatics analysis tools to optimize the use of WES data for research and clinical applications, and educating medical genetics professionals regarding the indications for WES and interpretation of results.

**BACKGROUND:**
The significant healthcare burden of genetic disorders in India is enormous due to its high birth rate, consanguineous marriages, and widespread occurrence of genetic diseases.

A recent NIH study revealed that 14.7% of Indian children ages 2-9 years had one or more neurodevelopmental disorders as compared to the 3-8% observed in the US and Europe.

Defining the genetic cause of an inherited condition is important in the prevention of inherited disorders.

Whole exome sequencing (WES) has risen to the forefront of genetic testing in LMICs and the World Health Organization recently recommended the use of community genetics to combat the high burden of inherited disorders at the population level in LMICs.
Each year, hundreds of UMMS faculty and their global partners design, implement, and analyze the results of their collaborative research.

As the Medical School unit charged with facilitating global health activities, Global REACH often plays a prominent role, such as administrating a global health training grant with mentors and trainees in several different departments. In other cases, it may have a very limited role, such as simply helping faculty or trainees celebrate their global work by boosting visibility.

In this section, we highlight some of the newsworthy global health research items that have taken place over the past year at the Medical School. Other such activities can be found throughout the report.

Photo: A young boy tries to throw a stick for two very disinterested dogs in one of favelas in the Western Region of São Paulo, Brazil (one the Medical School’s preferred Platform countries).
Preventing Maternal and Neonatal Death (PREMAND)

A research team from Global REACH and the Department of Learning Health Sciences received a 3-year, $1.44 million dollar grant from the US Agency for International Development (USAID) to examine the social, cultural, and behavioral factors influencing maternal and neonatal mortality in northern Ghana. The University of Michigan team is led by Department of Learning Health Sciences Assistant Professor Cheryl Moyer, PhD, MPH, who shares project leadership with Dr. John Williams from the Navrongo Health Research Centre, one of three research outposts of the Ghana Health Service.

PREMAND brings together a diverse group of researchers and practitioners as well as “on-the-ground” stakeholders who are eager to find new ways to decrease morbidity and mortality in their communities. The team includes social scientists who are working to quantify the impact of social and cultural factors on outcomes, clinicians who are hoping to learn from ‘near-misses’ and patterns of death, and mapping experts who aim to simplify complex information by mapping events and their correlates.

The PREMAND project was launched in September, 2014 to:

1. Improve understanding of maternal and neonatal deaths and near-misses (mothers and babies who nearly die) by implementing “social autopsies” of deaths and “socio-cultural audits” of near-misses. These tools will provide an in-depth understanding of the social and cultural factors surrounding the death or illness, including such things as traditional practices, symptom recognition, and care-seeking.
2. Use geographic technology to map socio-cultural trends contributing to maternal and neonatal deaths and near-misses. This geographic component is intended to highlight variations in beliefs, practices, and care-seeking so that results can inform localized decision-making for communities, government leaders, and donors.
3. Engage community members in programming tailored to address the unique challenges featured in their specific maternal and neonatal profile. Maps, data, and small pilot grants will be shared with communities and their stakeholders to encourage the development of locally-driven solutions.

“Ultimately, PREMAND aims to redefine the way we think about maternal and neonatal causes of death, pushing beyond standard clinical causes to highlight those factors that prevent symptom recognition, delay care seeking, steer women away from western providers, and otherwise limit the ability for a mother or baby to get timely, appropriate care when needed.”
—Cheryl Moyer, PhD, MPH

Project Co-Director Dr. Cheryl Moyer (left) reviews a map of project districts with Ghanaian colleagues
PREMND collaborators Raymond Aborigo (Ghana) and Liz Kaselitz (Global REACH) in a mapping training session
Our goal is to collaborate nationally and internationally to translate discoveries as quickly as possible into clinical trials that may improve and save lives. For rare diseases and particularly extremely rare cancers, grateful patients and empowered families are increasingly changing the landscape of medical discovery.”
—Gary Hammer, MD, PhD

Michigan Researchers Take Another Step Forward in Tackling Rare and Unforgiving Disease

In early 2015, researchers at the University of Michigan Comprehensive Cancer Center moved closer to uncovering the devastating secrets of adrenal diseases with receipt of a $1.65 million gift from the Hirair and Anna Hovnanian Foundation. The gift will further the work of Gary D. Hammer, MD, PhD, and Shruti Jolly, MD, who, along with their colleagues, continue to search for clues in unlocking this one-in-a-million disease; a disease which steals the lives of newborns to centenarians alike—taking the heaviest toll on adults in their prime where symptoms appear so late that patients succumb to the disease within months of receiving an adrenal cancer diagnosis.

The University of Michigan (UM) has been at the forefront of the study and treatment of adrenal tumors for more than six decades, establishing the first international randomized trial for adrenal cancer and the world’s largest adrenal tumor bank. The UM Medical Center is one of the few to be recognized as an international “Destination Program,” a Center of Excellence for adrenal cancer patients worldwide.

Collaborations with leading international researchers continues to hasten the understanding of adrenal diseases. Brazil, for example, has one of the highest concentrations of adrenal cancer in the world with 15 percent more prevalence than anywhere else. In 2008, the UM adrenal group developed a concept of collaboration with the University of São Paulo Medical School—the South American hub of activity in regard to adrenal cancer work—to build cooperative project teams. This partnership is currently creating combined data registries and continuing pilot work on The Cancer Genome Project in a comprehensive, concentrated effort to unravel the molecular basis of cancer through the application of genome analysis technologies.

The Hovnanian Foundation gift will allow Hammer and his team to establish the Hirair and Anna Hovnanian Adrenal Cancer Repository and Genomic Database, conduct the world’s most comprehensive genomic and genetic analysis of adrenal cancer, and accelerate the expansion of the adrenal tumor bank. Building a secure database of genetic data and patient data will allow researchers across the globe to access the information; the first step in identifying biomarkers, genetic markers, and genetic syndromes for these tumors.

In October 2015, the University will host the 5th International Adrenal Cancer Symposium bringing together scientists, patients, and advocates to discuss the current state of adrenal cancer research and to promote expansion of worldwide collaborations and tumor registries that facilitate research to impact adrenal cancer patient care. The symposium will also feature the launch of a Pan-American Australian Asian Adrenal Disorder Network, which will partner with European and other colleagues to greatly increase the ability to develop more effective therapies world-wide.
Advancing Research, Expanding Collaborations, and Training Future Physicians: A Model of Collaboration

Dr. Anna Lok, Professor of Internal Medicine and Director of Clinical Hepatology at the University of Michigan Medical School (UMMS), has been collaborating with Professor Lai Wei at the Hepatology Institute, People’s Hospital, Peking University, since 2011 on a study exploring predictors of the progression of Hepatitis C.

Chronic Hepatitis C virus (HCV) infection is the leading cause of cirrhosis and hepatocellular carcinoma (HCC) in the US and is emerging to be an important cause of mortality from liver disease in China. While chronic HCV does not always lead to cirrhosis or HCC, it has been estimated that 20% of people with chronic HCV infection progress to cirrhosis. Extensive research on Hepatitis C at both universities has long been established and this collaboration strives to identify genetic markers that predict the progression from chronic HCV infection to cirrhosis and HCC and to identify and validate blood markers of liver fibrosis and early HCC in patients.

Dr. Lok’s study is funded by the University of Michigan Health System and Peking University Health Sciences Center Joint Institute for Clinical and Translational Research and has been highly successful not only in terms of patient enrollment (completion of enrollment of total of 2000 patients), but also in securing external funding (total $1.45 million) and in providing a platform for University of Michigan students to participate in global health research projects.

Nine medical students, three undergraduates, one MPH student, and one high school graduate have been involved in the study’s sub-projects, which explore patient knowledge, satisfaction with treatment, and attitudes towards clinical research - all of which can play a role in medical decision-making and in the eventual progression of the disease. The first group of M1s has now graduated, the MPH student is currently in medical school, two undergraduates begin medical school in Fall 2015, one is in PA school, and one is applying to medical school.

The training and participation of these students has had tremendous impact on their professional development and their interest in medicine, and has played a major role in the success of the main study.

Student Sub-projects
• **2012:** Claudia Cao, Xisui Chen, and Zhe Guan (UMMS students)
  Comparison of patient knowledge of hepatitis C and attitudes towards clinical research between patients seen in the US (Ann Arbor) and urban (Beijing) and rural (Hebei) China
• **2013:** Tianyi Wang and Tammy Lin (UMMS), Melvin Chan (MPH), Sandra Pui (high school graduate)
  Comparison of (US and Chinese) patient attitudes toward clinical research
• **2014:** Fanny Du (UMMS), Shanna Cheng, Cassandra Rodd and Angela Xie (UM undergraduates), Dr. Ming Yang (PKU staff hepatologist, who was supported by a Fogarty Fellowship Award).
  Comparison of patient knowledge, satisfaction, and preference for medical decision-making in the US (UMHS) and urban (PKU) and rural (Hebei) China
• **2015:** Jeremy Balch, Jiaxin Huang, Mary Guan (UMMS)
  Care of patients with liver diseases: A comparative study between the US and China (Read more on Page 42).
Research Highlights

“One advantage of Global REACH’s long-term commitment to working with key partners is the development of strong reciprocal relationships. We have been able to develop and build on a menu of opportunities to enrich the training of medical students and residents at both UMMS and FMUSP.”
—Michele Heisler, MD, MPH

Clinical and Research Exchanges Epitomize Reciprocity Within the Brazil Platform

The University of Michigan Medical School (UMMS) Brazil Platform has developed a robust program for both clinical and research exchange opportunities for medical students and residents from UMMS and the University of São Paulo Medical School (FMUSP). One example is the Global REACH Faculty-led Summer Research Program, made available through the strong standing partnership between UMMS and the FMUSP Western Region Project.

Since Summer 2014, Dr. Michele Heisler, Associate Director of Global REACH and a Professor of Internal Medicine and Health Behavior and Health Education, has led a team of UMMS students to São Paulo for a 6-8 week hands-on clinical research experience and to continue to develop collaborative research efforts in Brazil. The students spend the 6 months prior to the trip in preparation: participating in Portuguese language courses and trainings relevant to their projects, and developing their own facet of the research based on their individual interests and future career goals, and ensuring their individual projects are feasible and align with the research needs of their hosts. Ten UMMS students have had the opportunity to participate in a variety of rigorous research projects over the past two years. These projects have provided them with exposure to the challenges being faced in primary care in Brazil, and systematic efforts to improve this care and health outcomes in low-income communities. Students have gained quantitative and qualitative research experience and writing skills, and participated in a collaborative team effort. This joint program between UMMS and FMUSP has constituted an important means to strengthen the Global REACH Brazil Platform and UMMS’s partnership with FMUSP.

Medical students from FMSUP also have an opportunity to come to Ann Arbor for international clinical experiences. In each of the past three years, FMUSP has had a competitive process to select FMUSP medical students to receive a full scholarship to participate in two months of observational clinical rotations at the UMMS through the Special Pathway for International Medical Students Program, led by Dr. Maya Hammoud. Thus far, ten students have participated in clerkships that include supplementary seminars to introduce them to the study of medical culture at UM and comparative health systems.

Another opportunity for the exchange of students involves the University of São Paulo Biomedical Sciences Institute, ICB-USP. The program, which is under development, will put together a multidisciplinary team each year to spend a month at a health care center in Rondonia, located in the heart of the Amazon Forest, to do research and provide care to the local population.

Read more about the Brazil Platform activities on Pages 14-17 and the Faculty-led Program on Page 41.
Progress in Maternal Waiting Home Studies Take a Pause When the Ebola Virus Diseases Hits Liberia

Post-conflict Liberia has one of the fastest growing populations in sub-Saharan Africa and one of the highest maternal mortality rates in the world reported at 1,072/100,000 live births in the most recent DHS (2013). A Liberian woman faces a 1 in 20 risk of dying from preventable birth-related causes over the course of her reproductive life (UNICEF, 2009). In the rural regions, fewer than half of all births take place within a health care facility.

In 2010, School of Nursing faculty Drs. Jody Lori and Carol Boyd were awarded one of six USAID-Child Survival grants along with their in-country partner, Africare and their inter-disciplinary UM team including Sarah Rominski PhD, Michelle Munro PhD, and Joseph Perosky MSE. The Innovation, Research, Operations, and Planned Evaluation for Mothers and Children (I-ROPE) study introduced and evaluated the effectiveness of maternity waiting homes (MWHs) on maternal and perinatal health. MWHs are temporary shelters for pregnant women located near a hospital or health center where women can stay in their final days of pregnancy to avoid traveling long distances during active labor. The study encompassed 12 locations: five rural healthcare facilities with MWHs matched with five comparison healthcare facilities without MWHs and two referral hospitals (one with and one without the intervention) in rural Bong County located in the north central region of Liberia where the fewest births take place within a health care facility.

Two years into the study, the mid-evaluation showed lower rates of maternal and perinatal death being reported from communities with MWHs with the difference between groups reaching statistical significance for maternal mortality. Communities with MWHs also experienced a significant increase in team births (certified midwives and traditional birth attendants [TBAs] working together) from baseline to post-intervention (10.8% versus 95.2%, p<0.001) with greater TBA engagement (Lori et al., 2013).

Then, in early 2014, the first Ebola Virus Disease (EVD) case was reported in Guinea and quickly spread to Liberia and Sierra Leone. These three countries share a common border referred to as the Mano River Region, considered the epicenter of the Ebola outbreak, where indigenous ethnic groups move freely across the three countries’ borders. The spread of EVD into areas where the MWH study was taking place greatly affected the momentum of the study.

- Prior to the EVD outbreak, facility-based deliveries and MWH stays showed an upward trend at the study sites. From a baseline of 250 facility-based deliveries at the start of the study (December 2010) and prior to construction of the MWHs, facility-based deliveries reached a high of 587 with 84 MWH stays recorded during May 2014.
- This positive trajectory rapidly reversed as EVD cases and deaths hit Bong County.
- The number of women delivering at a healthcare facility and those using MWHs decreased substantially. By August 2014, only 27 women utilized MWHs prior to delivery and facility-based deliveries fell to 113, less than half recorded at baseline (Lori et al., 2015).

“While the consequences of the EVD crisis on maternal outcomes have not yet been evaluated, it is clear that the use of facility-based maternity services has been negatively impacted, placing childbearing women at increased risk for morbidity and death. How Liberia transitions back in 2015 to restore the gains made and continue the fight to end preventable maternal deaths is yet to be seen.”

—Jody Lori, PhD, CNM, FACNM, FAAN
The following bibliography represents some of the publications of Global REACH Staff and Leadership and Faculty Associates and Affiliates (names bolded) that were published in 2014-2015 related to global health or authored with international partners. Previously reported publications are not included here.


Cavalcante JC, Bittencourt JC, Elias CF. Distribution of the neuronal inputs to the ventral premammillary nucleus of male and female rats. *Brain Res.* 2014; 1582: 77-90.


Suresh MV, Ramakrishnan SK, Machado-Arandia D, Bivin T, Yu B, Talarico N, Anderson E, Shah YM, Raghavendran K. Activation of Hypoxia Inducible Factor (HIF)-1α in Type 2 Alveolar Epithelial Cell is a major driver of acute inflammation following LC. Crit Care Med. 2014; 42(10): e642-53. PMID: 25014067
Select Publications


Uchihashi M, Bergin IL, Bassis CM, Hashway SA, Chai D, Bell JD. Influence of age, reproductive cycling status, and menstruation on the vaginal microbiome in baboons (Papio anubis). Am J Primatol. 2015; 77(5): 563-78. PM25676781


Highlighted below are three publications by Global REACH community members (in bold) and their international partners across three different continents.

**Brazil**


**Abstract:** Assessing the driving abilities of individuals with disabilities is often a very challenging task because each medical condition is accompanied by physical impairments and because relative individual functional performance may vary depending on personal characteristics. We identified existing driving evaluation modalities for able-bodied and lower extremity-impaired subjects (spinal cord injury patients and amputees) and evaluated the potential relationships between driving performance and the motor component of driving. An extensive scoping review of the literature was conducted to identify driving assessment tools that are currently used for able-bodied individuals and for those with spinal cord injury or lower extremity amputation. The literature search focused on the assessment of the motor component of driving. References were electronically obtained via Medline from the PubMed, Ovid, Web of Science and Google Scholar databases. This article compares the current assessments of driving performance for those with lower extremity impairments with the assessments used for able-bodied persons. Very few articles were found concerning “Lower Extremity Disabilities,” thus confirming the need for further studies that can provide evidence and guidance for such assessments in the future. Little is known about the motor component of driving and its association with the other driving domains, such as vision and cognition. The available research demonstrates the need for a more evidenced-based understanding of how to best evaluate persons with lower extremity impairment.

**India**


**Abstract:** Therapeutic hypothermia (TH) may improve neurological outcome in comatose patients following out of hospital cardiac arrest (OHCA). The reliability of clinical prediction of neurological outcome following TH remains unclear. In particular, there is very limited data on survival and predictors of neurological outcome following TH for OHCA from resource-constrained settings in general and South Asia in specific. The objective was to identify factors predicting unfavorable neurological outcome at hospital discharge in comatose survivors of OHCA treated with hypothermia. The setting was Urban 200-bed hospital in Chennai, India, and the design used a retrospective chart review. Predictors of unfavorable neurological outcome (cerebral performance category score [3-5]) at hospital discharge were evaluated among patients admitted between January 2006 and December 2012 following OHCA treated with TH. Hypothermia was induced with cold intravenous saline bolus, ice packs and cold-water spray with bedside fan. Predictors of unfavorable neurological outcome were examined through multivariate exact logistic regression analysis. A total of 121 patients were included with 106/121 (87%) experiencing the unfavorable neurological outcome. Independent predictors of unfavorable neurological outcome included: Status myoclonus <24 h [odds ratio [OR] 21.79, 95% confidence interval [CI] 2.89-Infinite], absent brainstem reflexes [OR 50.09, 6.55-Infinite], and motor response worse than flexion on day 3 [OR 99.41, 12.21-Infinite]. All 3 variables had 100% specificity and positive predictive value. Status myoclonus within 24 h, absence of brainstem reflexes and motor response worse than flexion on day 3 reliably predict unfavorable neurological outcome in comatose patients with OHCA treated with TH.

**Liberia**


**Abstract:** With a large number of births occurring outside the formal health system, it is difficult to determine the number of pregnant women in rural regions of Liberia. The exponential growth of mobile phone use in developing countries provides a potential avenue for data collection on maternal and child health in such rural, remote regions. A pre-, post-, and one-year posttest design was used to collect data on knowledge and skill retention for 7 essential items required for mobile phone use among traditional birth attendants (TBAs) trained in a short message service (SMS) texting data collection protocol (N = 99) in rural Liberia. Sixty-three participants (63.6% retention) completed the one-year posttest and displayed evidence of statistically significant knowledge and skill retention in 6 of the 7 tasks (P < .005), including the ability to: 1) turn on the phone, 2) use the mobile phone to make a call, 3) recognize that they have coverage, 4) recognize that the mobile phone is charged, 5) create a SMS text message without help, and 6) send a SMS text message without help. The TBAs continued to have difficulty with more complex tasks such as adding minutes to a phone. The mobile phone data-collection protocol proved feasible with TBAs demonstrating knowledge retention in a one-year posttest; however, clinical significance needs further investigation. The protocol increased communication and collaboration among TBAs, certified midwives, and clinic staff.
Global REACH supports the mission and goals of the University of Michigan Medical School by providing opportunities for students to participate in educational experiences abroad and by facilitating the visits of international scholars and trainees.

Medical students across all four years may participate in a formal educational program to study global health and disparities, conduct faculty-mentored research projects overseas, or complete clinical electives abroad. Most of these experiences are funded by Global REACH, while others are supported and administered by units within the Medical School, across campus, or outside the University.

Visiting scholars and learners come from around the world to engage in clinical, educational, or research activities. Visits may range from a few days to more than a year. Global REACH works with individual units to facilitate these visits — helping enhance the experience for our guests and strengthen their collaborative relationships with partners at the University of Michigan.

Photo: The 2015 UM Amazon Promise group (from left to right) includes Karen Rodriguez (M4), Dr. Robert Hyzy (faculty mentor), Bonnie Wang (IM resident), Nicholas Maurice (IM resident), Arpan Patel (IM resident), Erica Herc (IM resident), David Shrock (M4). Photo courtesy of Arpan Patel.
The Global Health & Disparities (GHD) Path of Excellence—the first co-curricular Path of Excellence program offered to UMMS students—graduated its inaugural cohort of students in 2015. As Global REACH helps to facilitate the international activities of UMMS constituents, GHD and Global REACH are natural partners in facilitating UMMS student activities related to health equity, both in the United States and abroad.

As a co-curricular activity, GHD supplements the standard curriculum and provides a flexible, mentored, self-regulated environment to shape student learning. It operates through several discrete structured learning experiences, longitudinal faculty advising, and a capstone field project. GHD provides students an opportunity to integrate foundational, investigative, and experiential learning around domestic and global health disparities in order to become agents of sustainable change. GHD students have the opportunity to gain practical experience in an underserved setting in the United States or a developing country. These opportunities generally take place during the summer following the M1 year or during the M4 year as a clinical elective.

The GHD Path offers a pre-travel learning experience with video triggers to foster awareness and preparedness for UM students traveling off-campus. It focuses on topics such as personal safety, cross-cultural communication, gender-specific safety, cultural isolation, and exposure to infectious diseases. This experience is now required of all UM medical students traveling to low-resource settings as part of their professional development.

GHD is co-directed by Brent Williams, MD, Associate Professor of Internal Medicine, and (for the past two years) Senait Fisseha, MD, Associate Professor of Obstetrics and Gynecology. They are assisted by faculty advisors.

2014-15 Faculty Advisors
Sana Ahmed, Pediatrics
Jason Bell, Obstetrics & Gynecology
Kevin Chung, Plastic Surgery
Daniel Clauw, Anesthesiology and Psychiatry
Alicia Cohen, Family Medicine
Michael Fetters, Family Medicine
Senait Fisseha, Obstetrics & Gynecology
Andy Haig, Physical Medicine & Rehabilitation
Michele Heisler, Internal Medicine
Jason Kahn, Internal Medicine and Pediatrics
Joseph Kolars, Internal Medicine
Preeti Malani, Internal Medicine
Patricia Mullan, Department of Learning Health Sciences
Julie Perry, Obstetrics & Gynecology
Gurpreet K. Rana, Taubman Health Sciences Library
Michelle Riba, Psychiatry
Maggie Riley, Family Medicine
Brent Williams, Internal Medicine

“O ur Global Health & Disparities Path of Excellence is unique because of its focus on health equity — in underserved communities in the US as well as abroad.”
— Dr. Joseph Kolars, Senior Associate Dean for Education and Global Initiatives
GHD Students
Since its inception in 2011-2012, 118 students have enrolled in the GHD Path. Each has completed, or is planning, a scholarly project in health disparities with UM faculty: 75 in low- or middle-income countries across the globe, and 43 among vulnerable populations in the United States.

2014-15 GHD Highlights
- Sixteen UMMS students were among the first cohort of GHD graduates
- Six students returned to campus for their 4th year, having completed a year off-campus receiving advanced training related to health disparities (Read more about some of these experiences on Pages 50-53)
  - Peter Finin; Howard Hughes Medical Research Fellowship in South Africa
  - Andrew Gardner; Fogarty Fellowship in Ghana
  - Mohammad Issa; Multidisciplinary Clinical Researchers in Training Program in Kenya
  - Vivian Lam and Bianca Verma; Harvard School of Public Health
  - Yasmine White; Howard Hughes Medical Research Fellowship University of California San Francisco
- Two students received GHD Scholarships to continue or initiate health disparities projects during the fourth year of medical school (please see following page)
- Seven students have been accepted into advance training programs for 2015-16
  - Jose Davila: Kellogg Eye Center, Diabetic Retinopathy research
  - Jennifer Geiger: Harvard School of Public Health (MPH)
  - Rashmi Patil: Hopkins Bloomberg School of Public Health (MPH)
  - Eytan (Tani) Shtull-Leber: Michigan Institute for Clinical and Health Research (MICHR; MSCR)
  - Chelsea Tafoya: Michigan Institute for Clinical and Health Research (MICHR; MSCR)
  - Matt Tafoya: UM Ross School of Business (MBA)
  - Kailyn Wiersma: University of Michigan School of Public Health (MPH)
- In 2014-15 the GHD Path of Excellence enrolled its fourth cohort of students (Class of 2018). Twenty-seven M1 students entered the GHD track and participated in scholarly work with UM faculty during Summer 2015. Nine GHD students (*) participated in international Global REACH faculty-led projects (see Pages 41-43).

Students who successfully complete the GHD Path of Excellence receive special recognition in their Dean’s letter at graduation, which includes a description of the tasks and competencies of the GHD path.
GHD Scholarship Program
2015 Awardees

GHD Scholarship Program
Senior medical students enrolled in the Global Health & Disparities Path of Excellence who identify opportunities for 1-2 month experiences in low resource settings – both international and domestic – are eligible to apply for support for experiences that focus on such areas as research, development / implementation of innovative health-related interventions, program evaluation, needs assessment, or education program development. In 2015, two M4 GHD students received scholarships for their international projects: Danielle Dougherty and Aditi Ramakrishnan.


Ms. Dougherty spent her final elective simultaneously completing two projects in Maun, Botswana. The first consisted of a clinical clerkship experience at a newly-opened primary care clinic; the second focused on completing an investigation on the relationship between women’s healthcare access and interpersonal violence, which Ms. Dougherty had worked on throughout her four years of medical school.

The Doctor’s Inn Health Centre is a private clinic that accepts insurance plans and serves mostly Botswana citizens, as well as some ex-patriots and tourists who pass through Botswana. It provides services ranging from prenatal visits to treating general cold and flu symptoms to minor procedures such as incision and drainage of small wounds. Ms. Dougherty did her clinical shadowing there, experiencing a wide variety of medical conditions while learning how a small clinic operates in a remote village in Sub-saharan Africa.

Her second project focused on completing research she began as a Peace Corps volunteer prior to medical school. She worked with a local non-profit Women Against Rape, an organization run by local men and women that provides counseling and other assistance to people (mostly women) who are survivors of gender-based violence. The survey research investigation was aimed at learning about the relationship between intimate partner violence and utilization of healthcare services in the region.

Aditi Ramakrishnan: A Quantitative and Qualitative Study of Physician Decision-Making and Views of Breast Cancer Screening Guidelines and Practices in Chennai and Bangalore, India

Ms. Ramakrishnan’s project explored physician attitudes and practices regarding breast cancer screening in Mumbai and Chennai, India. Several private practice gynecologists she interviewed reported awareness of breast cancer screening protocols and an active practice of providing a clinical breast exam for most patients (who self-report) and mammogram referral. She was also able to observe a free breast and cervical cancer screening program, under which women found to have abnormalities are referred for a mammogram and subsequent care. However, many challenges exist for widespread care including limited transportation and fees for government-run mammogram sites, manpower to maintain mammogram machines, and a very significant lack of self-reporting due to the high level of stigma surrounding breast cancer.

“It was truly fulfilling to return to the place where I had done global health research and to be able to finish the research with the local organization with which I had collaborated. Shadowing in a clinic helped me better understand how healthcare is implemented in the place that had originally inspired me to pursue a career in medicine many years ago.”
– M4 Danielle Dougherty

“This was a pivotal opportunity for me as I begin an Internal Medicine residency with the hope of going into global health academics focusing on breast cancer prevention and treatment.”
– M4 Aditi Ramakrishnan
Faculty-led Small Group Experiences

The Western Region and ROC Cohort Studies: Evaluating Community Health Worker-Led Health Promotion Programs (São Paulo, Brazil)

Faculty Mentor
Michele Heisler, MD, Professor of Internal Medicine, UMMS

Under the mentorship of Dr. Michele Heisler and her colleague, Dr. Alexandra Brentani from the University of São Paulo Medical School (FMUSP), the primary Summer 2015 project involved evaluating and improving smartphone technology through the GeoHealth application, which is utilized by community health workers (CHWs) working at several community health centers in the western region of São Paulo.

UMMS students compiled a list of questions and question probes to serve as the basis of CHW interviews, which they conducted with forty CHW’s. They translated and coded their responses, finding a wide range of attitudes towards the technology. Some CHW’s loved using the app, while others said that they locked the smartphones away in a cupboard because they never used them. One of the most interesting outcomes of the research was the theme of technology negatively impacting the interactions between CHWs and community members (citing distrust of the technology and less personal interaction).

In addition to the time spent on the CHW project, some of the students worked on a study identifying factors that contribute to unhealthy levels of stress of at-risk mothers in low socioeconomic status communities known as favelas. There was also a great deal of effort spent coding the database for the main ROC cohort study, making it more accurate and easier to use by FMUSP researchers.

The students also had numerous opportunities to become familiar with the Brazilian healthcare system by shadowing in private and public hospitals and primary healthcare centers, as well as helping with other FMUSP research projects. These experiences included shadowing endocrinologists and infectious disease specialists; researching cardiology collaboration between UM and USP in the 1940s and learning how cardiology became a specialty in Brazil; and witnessing congenital anomalies in the Butantã region of the city.

2015 UMMS students on this project included: Toby Bonthrone*, Rebecca Grossman-Kahn, Grace Keeney*, Bill Mallett*, and Julia Schoen
*UMMS Global Health & Disparities Path of Excellence Student

Many community members do not like the smartphone technology because it feels like a barrier and reduces eye-contact between the CHWs and community members. They are distrustful of the devices and value personal connection with CHWs. This is similar to a growing sentiment at Michigan that electronic medical records are ruining clinic visits because doctors look at the computers rather than the patients.”

– M1 Rebecca Grossman-Kahn
Faculty-led Small Group Experiences

Care of Patients with Liver Diseases: A Comparative Study between the US and China

Faculty Mentor
Anna S. Lok, MD, Alice Lohrman Andrews Professor of Hepatology; Professor of Internal Medicine; Director of Clinical Hepatology; and Associate Chair for Clinical Research, Department of Internal Medicine

For the past several years, Dr. Anna Lok has been collaborating with Professor Lai Wei, Peking University, Hepatology Institute, People’s Hospital in Beijing, on a hepatitis C project funded by the University of Michigan Health System and Peking University Health Sciences Center Joint Institute for Clinical and Translational Research (JI). Their project has been highly successful in patient enrollment and retention, as well as in data and sample collection. Since 2012, Dr. Lok has been sending M1 students to China as part of the Global REACH Faculty-led program.

The 2015 project focused on the collection of data on hepatitis B knowledge and stigma. More than 1200 surveys were administered, either orally or filled out by the patient themselves, at liver, general medicine, and gastrointestinal clinics. Student trainees received patient lists from clinic physicians daily then introduced the project to patients being surveyed, and informed them that the survey was completely voluntary and confidential before administering the survey. They were often able to have lengthy conversations with patients, hearing in depth many of the patients’ stories about their disease and what it was like living with their disease.

The surveys were scanned weekly and sent to Dr. Lok along with an updated report completed by the students. The students had regular meetings with two physicians who helped coordinate the survey and patient enrollment. They were also able to shadow physicians and nurses throughout their entire clinic shifts, receiving a first-hand view of the differences between US and Chinese health care delivery. The results of the survey showing stigmatization and discrimination were presented at the Asian Pacific American Medical Student Association conference in late September and earned 2nd place in the poster competition.

Three UMMS students participated in the 2015 project: Jeremy Balch, Mary Guan, and Jiaxin Huang.*

*UMMS Global Health & Disparities Path of Excellence Student
**Faculty-led Small Group Experiences**

**Improving Chronic Illness Care in Colombia Using Mobile Health Tools**

**Faculty Mentor: John Piette, PhD**, Professor of Internal Medicine, UMMS, and of Health Behavior and Health Education, UM School of Public Health

The Program on Quality Improvement for Complex Chronic Conditions, directed by Dr. John Piette, develops resources for chronically-ill patients and their clinical teams and supports telehealth services in low/middle income countries, as well as across national boundaries. Student summer projects include rigorous implementation of science methods and collaboration with experts in international health research to ensure a stimulating experience for students and the development of a service delivery model that has the greatest possible impact on the health of chronically-ill patients around the globe. The program emphasizes community engagement, experiential learning, and work on specific, results-oriented research projects. It also offers an opportunity for students to practice medical Spanish.

The 2015 project focused on the implementation of the **Llamada Saludable program**, which is a mobile health program designed to improve the self-management of people with diabetes. It was carried out in Medellin, Colombia, in collaboration with colleagues from the Living Lab at the Universidad de Antioquia, who handled the site identification, patient identification and recruitment, and initial baseline interviews.

The UMMS team helped lead workshops where patients were screened for eligibility and educated about an Interactive Voice Recognition system using automated calls to assist them with monitoring and reporting on their diabetes care. The system was set up so that patients received weekly automated calls asking various questions, including whether they were taking their medications as directed, whether they are experiencing any symptoms of low/high blood sugar, etc. Patient responses were recorded by the system, and an alert was sent to a health care professional if there were indications that the patient needed help with a specific aspect of their health care. The students also placed follow-up calls to the patients and analyzed system data to ensure everything was functioning as it should.

Five UMMS students participated in the 2015 project: **Charlotte Bourdillon**, **Simone Ferguson**, **Renee Yu Philson**, **Julia Tasset**, and **Mayra Gomez**.

*UMMS Global Health & Disparities Path of Excellence Student*

“This was the first time the Llamada Saludable program had been implemented in Colombia, so it was quite an experience being involved with the start-up. We learned about the importance of telemedicine in under-resourced areas, where there is often not access to necessary specialists and ambulances don’t enter certain areas due to lack of safety.”

– M1 Renee Philson

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Renee Philson (right) trains a diabetic patient on how the Llamada Saludable program works

Mayra Gomez (right) helps a study participant listen to her first automated call
Woll Family Foundation Provides Opportunities for International Health Experiences

An ongoing donation to the University of Michigan Medical School by Drs. Douglas and Margo Yellin Woll has been supporting exceptional third or fourth year UMMS students who elect to carry out their clinical clerkships in underserved areas of developing countries. The donors expect that the students will obtain both valuable knowledge and deep insight into various disease states, many of which will present at later stages than seen in resource-rich environments like the United States. The first two Woll Family Scholars were awarded in 2013.

M4 students Moona Arabkhazaeli and Emma Lawrence were selected as the 2015 Woll Family Global Health Opportunities Scholars. Both used their awards to support clinical electives in obstetrics and gynecology; Ms. Arabkhazaeli at the St. Paul’s Hospital Millennium Medical College in Addis Ababa, Ethiopia, and Ms. Lawrence at the Komfo Anoyke Teaching Hospital in Kumasi, Ghana.

Throughout her 4 weeks rotating through Labor and Delivery, Obstetrics Emergency, and Gynecology wards, Ms. Arabkhazaeli encountered diverse obstetric complications and gynecological pathology including multiple cases of eclampsia and advanced cervical cancer as well as placental abruptions or previa — most of which she had little pre-exposure to other than in the literature. In addition, her week at the Hamlin Fistula Hospital allowed her to witness fistula repair surgery as well as physical therapy, psychological counseling, and a novel program supporting patients’ reintegration into society.

Ms. Lawrence’s elective also brought her exposure to a wide variety of medical cases that are rare in the United States, including sickle cell disease in pregnancy, malaria, and obstetric fistulas. She had the opportunity to participate in the care of patients who presented with severe complications and at late stages of diseases that are not commonly encountered in developed countries, such as malignant reproductive cancers and life-threatening obstetric complications.
Hauslohner Global REACH Fund

The Hauslohner Global REACH Fund was established in 2014 by UM Alumnus Dr. Peter Hauslohner and his wife Dr. Marianna Nosa. The donors, who themselves have considerable health-related international experience, designed the fund so that 100% of the monies would be spent in Africa to improve physicians’ appreciation of public health challenges.

For the initial round of funding, the donors worked with Global REACH leadership and the Ghana Health Service to develop a Research Funding Announcement that was open to junior physicians in Ghana – those either still in training or recently finished – to support small community-based, public health research projects that addressed an important public health challenge in Ghana and demonstrated some element of capacity building.

Three projects were selected. Dr. Adarkwa’s mid-project summary is highlighted below.

Dr. Oheneba Charles Kofi Hagan
University of Cape Coast School of Medical Sciences
Project: Sero-epidemiology of hepatitis B among school children within Cape Coast metropolitan area

Dr. Opei Kwafo Adarkwa
Komfo Anokye Teaching Hospital, Kumasi
Project: Reproductive experiences of female head-porters in the Kumasi Central Business District

Dr. Ethel Osei-Tutu
Cape Coast Teaching Hospital
Project: A study on typhoid fever in Elmina in the Central Region of Ghana

Reproductive experiences of female head-porters

This project seeks to assess reproductive experiences of female head porters (Kayayee) in Kumasi Central Market (Kejetia Market). In Ghana, female head porters — women who carry large loads of merchandise on their heads for a fee — constitute a vulnerable group of young women who are prone to a wide range of sexual and reproductive risk factors as well as physical and psychological abuses. These women operate in central commercial areas of the country; and while society finds their services very useful, their health and welfare are often neglected. Mobilizing these female head porters for reproductive health services will go a long way in reducing the rate of unintended and unwanted pregnancies, unsafe abortion, and attendant maternal and child morbidity and mortality in cities and large towns in Ghana.

The study, which takes place in the largest single market in West Africa, involves approximately 400 respondents who are being interviewed to gather information for planning reproductive health interventions to increase access to reproductive health. Specific objectives include determining: sexual exposure experiences; rates of unintended pregnancy and exposure to induced abortion; contraceptive practices; level of awareness of sexually transmitted infections; and evaluating factors that influence acceptance of contraception.
Moona Arabkhazaeli  
St Paul Hospital  
Millennium Medical College, Ethiopia  
Apr 6-May 1, 2015  
Obstetrics & Gynecology

Elizabeth Haworth-Hoepner  
Hope Clinic  
International, Nicaragua  
Feb 1-Mar 1, 2015  
Traditional Healing

Jessica Bloom  
Jose Domingo de Obaldia Hospital for Women and Children, Panama  
Sept 30-Oct 9, 2014  
Pediatrics

Harriet Huang  
National Taiwan University  
Feb 7-Mar 8, 2015  
Family Medicine

Shirley Chen  
Shanghai Jiao Tong University Ruijin Hospital, China  
Apr 1-May 12, 2015  
Traditional Chinese Medicine

Emma Lawrence  
Komfo Anoye Teaching Hospital, Ghana  
Jan 12-Feb 8, 2015  
Obstetrics & Gynecology

Yih-Chieh Chen  
National Taiwan University  
Feb 6-Mar 7, 2015  
Dermatology

Mei Ling Liu  
National Taiwan University  
Feb 6-Mar 7, 2015  
Family Medicine

Alan Shiao-Feng Chu  
National Taiwan University  
Mar 7-Apr 5, 2015  
Anesthesiology

Eva Marie Luo  
Shanghai Jiao Tong University School of Medicine, China  
Apr 4-May 10, 2015  
Surgery and Traditional Chinese Medicine

M4 David Schrock examines a patient during his clinical elective in Peru

M4s celebrate UMMS match day during their clinical electives at National Taiwan University
M4 International Electives/
Clinical Rotations

Anudeep Mukkamala
Hospital of St. Thomas, University of Panama Medical School, Panama
Apr 4–May 10, 2015
Infectious Diseases

Catherine Nosal
Kwame Nkrumah University of Science and Technology, Ghana
Apr 4–May 10, 2015
Obstetrics & Gynecology

Roopa Pandit
Tim’s Clinic and Hope Clinic International, Nicaragua
Jan 31–Feb 28, 2015
Pediatrics

Alissa Petrites
Pontificia Universidad Católica del Ecuador, Hospital San Francisco
Apr 5–May 4, 2015
Neurology

Karen Rodriguez
Amazon Promise, Peru
Feb 7–Mar 1, 2015
Medical Outreach

Aimee Marie Rolston
Kwame Nkrumah University of Science and Technology, Ghana
Apr 4–May 10, 2015
Obstetrics & Gynecology

Brian Salata
Peking University Health Science Center, China
Mar 8–Apr 4, 2015
Medical Practices; Patient-Client Relationships

David Schrock
Amazon Promise, Peru
Feb 1–Mar 2, 2015
Medical Outreach

Michael Schultz
St Paul Hospital Millennium Medical College, Ethiopia
Apr 4–May 3, 2015
Obstetrics & Gynecology

Sara De Rosa
India; Spring 2015
Not supported by Global REACH
Co-funding: Kellogg Eye Center Ophthalmology & Visual Sciences

Jamie VanArtsdalen
National Taiwan University
Feb 5–Mar 7, 2015
General Surgery

M4 Alissa Petrites works with a patient during her neurology elective in Ecuador

M4 Aimee Rolston is shown entering surgery for observation during her elective in Ghana
“This was a very positive experience for me as a medical student. By working with the group at the clinic, I learned more about the logistics of the management of a sustainable free clinic as well as evaluation of community groups. The doctors have a high patient load for a short period of time, however the medicine is quite personalized.”
—M4 Roopa Pandit, Nicaragua, February 2015

“One of the most valuable parts of the experience was learning more about the health system in Panama and how much this hospital differed from the ones I’ve seen in the US. It made me extremely grateful for things like electronic medical records and private patient rooms, while at the same time realizing that some of the conveniences we rely on aren’t absolutely necessary.”
—M4 Anudeep Mukkamala, Panama, April 2015

“This experience brought me much closer to my ultimate goal of being able to practice medicine in Spanish. It also gave me a new perspective on our health system and its resources, as well as on cultural aspects of physician-patient relationships. This was a reminder that access to sophisticated technology and sometimes even essential medications is not a guarantee, and that we should try to be cognizant of our privilege in this way.”
—M4 Alissa Petrites, Ecuador, April 2015

“The clinical experience (in Ghana) is very different than in the US, especially in terms of resources. I gained a perspective on the similarities and differences in medical practice and the resource issues they face as well as substantial hands on, procedural experience.”
—M4 Amy Rolston, Ghana, April 2015

“This experience affected the way I view myself as a physician by reminding me that providing care, even if limited by the resources around you, is as important if not more important than finding a cure. In the US, we often focus on curing disease and less often on simply providing care. In the Amazonian villages, we were able to focus on the smaller victories, such as providing hydrocortisone cream to alleviate the itchiness from mosquito bites, or handing out albendazole to treat intestinal parasites.”
—M4 Karen Rodriquez, Peru, February, 2015
“I think simply being immersed in a completely different clinical environment is itself an invaluable experience. In China, the patient volume, clinic structure, and physician-patient relationship is so different from the US, yet the treatment and management of most conditions may be quite similar. It was so interesting to observe these similarities and differences and to speak with the Chinese doctors about their clinical training and experiences.”
—M4 Shirley Chen, China, April 2015

“Spending time in Ethiopia provided me with an appreciation of a full spectrum of obstetrical and gynecologic disease processes that I had previously only read about in textbooks. The experience cast light on both the positive impact of global medicine as well as the huge need to continue these types of efforts in the future.”
—M4 Michael Shultz, Ethiopia, April 2015

“I find different health care systems very unique and fascinating to learn about, given their politics and culture. In Taiwan, family members are very active in patient’s medical decisions. Observing how physicians work with family members to optimize medical care was very beneficial.”
—M4 Yih-Chieh Chen, Taiwan, February 2015
Global REACH Conference Grant Recipients

12th Annual American Medical Association Research Symposium; Dallas, Texas; November 6-9, 2014

- Sarah Bliss M2 (shown at right) and Eric Spencer (M2)
  The relationship between physical development and cognitive performance outcomes in preschool-age Ugandan children perinatally exposed to HIV
- Nikita Jambulingam (M2)
  An early childhood vigilance test (ECVT) of attention in preschool-age Ugandan children perinatally exposed to HIV

Global REACH Non-Traditional Grant Recipient

Sam Neher (M4, Global Health & Disparities Path of Excellence)
Port-au-Prince, Haiti
July, 2014
Social Medicine Course

In July of 2014, Sam Neher spent three weeks in Port-au-Prince, the capital of Haiti and home to more than half of its 10 million inhabitants. He attended a three-week Global Health and Social Medicine course led by a group called Physicians for Haiti (P4H), which was started by two Mass General Residents several years ago.

The annual three-week course *Beyond the Biologic Basis of Disease* is organized by SocMed — an organization that merges the teaching of medicine with an understanding of the socioeconomic, cultural, political, and historical underpinnings of illness. The course, which is generally held in Uganda or Haiti, is designed for health profession students of all levels, and links tropical medicine with social medicine teaching. The course in Haiti is taught in French and is comprised of both Haitian and international medical and nursing students. The goal of the course is to advance the entire class’ understanding of the interactions between the biology of disease and the social, cultural, economic, political, and historical factors that influence illness presentation and social experience. The curriculum places great importance on building partnerships and encouraging students to reflect upon their personal experiences with power, privilege, race, class, gender, and sexual orientation as central to effective partnership building in global health.

Excerpt from Mr. Neher’s report:

*The course focused largely on what it values as the “Three P’s” of Global Health: Praxis, Partnership and Personal Implication. We learned tremendous amounts about the history of the plight of Haiti and the unfortunate (and yet undeniably deliberate) hand the United States had in its making. I came away from the course with a renewed notion that Global Health interventions work best when they partner with the local community, which should be the driver in deciding which interventions it wants to see implemented. Careful thought and attention need to be put into deciding how to allocate resources and this includes manpower. I am grateful the University of Michigan Medical School gave me the opportunity and flexibility to attend this non-clinical course and I strongly believe it will significantly enhance my future experience working both in global and domestic disparities.*

“Global Health is not a zero sum game where first world countries can simply trade resources and expertise for the excitement of abroad opportunities and the elusive concept of ‘making a difference.’”

— M4 Samuel Neher
In addition to funding provided by Global REACH for clinical electives and global health experiences, medical students often receive support from other sources. For instance, the Student Biomedical Research Program (SBRP) is a medical student research training program funded by the National Institutes of Health (NIH). Another source of funding that first-year medical students often turn to is the NIH-funded Minority Health & Health Disparities Research Training Program (MHIRT), administered by the UM Center for Human Growth & Development.

**Summer 2015 M1 Students**

*UMMS Global Health & Disparities Path of Excellence Student

- **Sydney Behrmann**
  - The basis of congenital deafness in Bangladeshis (Bangladesh)
  - UM mentor: Dr. Glenn Breen
  - SBRP Award

- **Victoria Koski-Karell (MD/PhD)***
  - An ethnographic study of water and food insecurity in rural Haiti
  - UM mentors: Dean Joseph Kolars, Dr. Elisha Renne
  - MSTP Summer Funding Award

- **Anne Phan-Huy**
  - Behavior of 10-year-old Chilean children with blunted cortisol response to stress or limited circadian change in cortisol (Chile)
  - UM mentor: Dr. Betsy Lozoff
  - SBRP Award

- **Kylie Steenbergh***
  - Evaluating reproductive services for HIV-infected individuals at St. Paul’s Hospital (Ethiopia)
  - UM mentor: Dr. Okeoma Mmeje
  - SBRP Award

- **Carrie Tamarelli***
  - Investigating the association between glutamate consumption and chronic pain (Kenya)
  - UM mentor: Dr. Daniel Clauw
  - SBRP Award

- **Lynette Wynn***
  - The relationship between socio-cultural factors and “near-miss” mortality among neonates in Ghana: What predicts narrowly averting death? (Ghana)
  - UM mentor: Dr. Cheryl Moyer
  - SBRP Award

- **Angelica Simmons***
  - How sociodemographic and socioeconomic factors influence the academic success of school age children (Colombia)
  - UM mentor: Dr. Eduardo Villamor
  - MHIRT Program Award

- **Lynette Wynn***
  - The relationship between socio-cultural factors and “near-miss” mortality among neonates in Ghana: What predicts narrowly averting death? (Ghana)
  - UM mentor: Dr. Cheryl Moyer
  - SBRP Award

- **Vicky Koski-Karell learning how to plant rice in Bocozel, Artibonite, Haiti**
Other Student Experiences Abroad

Peter Finin, 2014-2015 HHMI-K-RITH Medical Research Fellow
Howard Hughes Medical Research Fellows Program (HHMI)

The goal of the HHMI Medical Research Fellows Program is to strengthen and expand the nation’s pool of physician-scientists, dentist- and veterinarian-scientists. By supporting students’ involvement in mentored research training experiences early in their professional education, before they make plans for their residency or postgraduate training, the program can have a pivotal effect on the fellows’ career development.

In Summer 2014, M4 Peter Finin was awarded a one-year fellowship to conduct full-time research at the Kwa-Zulu Natal Research Institute for Tuberculosis and HIV (K-RITH) in Durban, South Africa. The Medical Research Fellows Program at K-RITH is targeted to students interested in conducting laboratory research in HIV, TB, or co-infection in a state-of-the-art research institute at the heart of the TB and HIV epidemics.

Mr. Finin’s fellowship focused on basic science research on Mycobacterium tuberculosis (Mtb) within the Adrie Steyn laboratory at K-RITH. He joined Dr. Steyn’s team in investigating the response of Mtb to pharmaceutical targeting of its electron transport chain (ETC), discovering some surprising results about both the newly FDA approved drug bedaquiline, as well as other drugs still in preclinical development. In the process of trying to explain the unexpected results, which contradict the previously published literature consensus on their mechanism of action, Mr. Finin and his colleagues learned several new details regarding Mtb physiology, which led them to explore how to best craft ETC-targeting drug combinations. They found combinations that had substantial synergy and developed theoretical models for several mechanisms of synergy that can be achieved by combination targeting of the ETC.

He was also able to participate in several weekly meetings of collaborators in the cardiothoracic surgery program at Inkosi Albert Luthuli Central Hospital, who provided invaluable samples from tuberculoma resections and provided some administrative support to a project donating recreational activities to patients admitted to the Church of Scotland Hospital for long term treatment of drug-resistant TB in rural Kwa-Zulu Natal.

“T his has been a very valuable year for me in many ways. I’ve been able to participate in excellent science that I believe develops several ideas regarding ways to treat TB that may be of benefit to patients in the future. I’ve been able to build connections with a wide range of international TB researchers from around Africa and the world.”

– M4 Peter Finin
Halley Crissman, 2014-2015 CDC Hubert Global Health Fellowship Recipient

The Hubert Global Health Fellowship from the Center for Disease Control (CDC) is offered to medical and veterinary students in their 3rd and 4th years. It assigns selected applicants to global projects being overseen by a CDC epidemiologist. Each fellowship includes an intensive 4-day epidemiology training session at the CDC headquarters in Atlanta along with a 6- to 12-week field experience.

M4 Global Health & Disparities Path of Excellence student and Hubert Fellowship recipient, Halley Crissman, spent her fellowship working in the Division of Reproductive Health on a project in Uganda. Ms. Crissman’s project centered around assessing the Maternal Death Review (MDR) process in three hospitals in Uganda and producing recommendations and tools to improve the MDR process. The vast majority of maternal deaths are preventable. MDRs are a process by which the deaths of pregnant or recently pregnant women are analyzed to better understand the causes and circumstances surrounding death, make recommendations on changes that could have prevented death, and act upon recommendations to prevent future deaths. The overarching idea is that all maternal deaths should be a call to action.

During her fieldwork, she spent two weeks at the CDC headquarters in Atlanta, Georgia, and four weeks in Fort Portal, Uganda. In Atlanta, she met with leaders in the field and developed a plan and tools to approach her project. Once in Uganda, she and another CDC fellow interviewed stakeholders, observed facilities and MDR processes, and reviewed MDR related facility documents. They found opportunities to improve case identification, data collection surrounding deaths, meeting structure, and death-related recommendations for development and implementation. They used their findings to generate tools and standard operating procedures. Their final report was presented to the district health officer, local stakeholders, and national stakeholders, including the Ministry of Health.

“Maternal Death Reviews (MDRs) are a process by which the deaths of pregnant, or recently pregnant women, are analyzed to better understand the causes and circumstances surrounding death, make recommendations on changes that could have prevented death, and act upon recommendations to prevent future deaths. The vast majority of maternal deaths are preventable, and the overarching idea is that all maternal deaths should be a call to action.”

– M4 Halley Crissman
Developing Future Biologists Program

The Developing Future Biologists (DFB) program is an initiative designed to lower the cultural barriers to graduate education and increase awareness of life science careers for underrepresented minorities. Conceptualized by University of Michigan Department of Cell and Developmental Biology (CDB) Postdoc, Andrea Ramos, and graduate student, Martha Echevarria — both of whom attended the University of Puerto Rico in Ponce as undergraduates — the program was inaugurated in the Spring of 2015 by a team of CDB faculty and students in the form of a week-long course in developmental biology offered to undergraduates in Puerto Rico.

Dr. Ramos and Ms. Echevarria viewed their own early academic experiences and passion for the life sciences as confined by the few opportunities for hands-on laboratory experiences and limited coursework. Their goal was to utilize their own successes in graduate school and a commitment from some like-minded CDB faculty and students to provide an outreach initiative to allow others easier access to the beauty of developmental biology and support for their continuing education in this field. The DFB program offers another benefit by providing opportunities for current CDB students to gain teaching experience with non-native English speakers and engage in cross-cultural learning.

DCDB faculty members Drs. Scott Barolo (lead), Ben Allen, Deb Gumucio, and Deneen Wellik were joined by Dr. Ramos, Ms Echevarria, and fellow students Brandon Carpenter, David Lorberbaum, and Justine Pinskey, as they traveled to the University of Ponce in Puerto Rico last Spring. There they they presented lectures about gene expression, cell to cell signaling, embryonic development and organogenesis, and human organ-based disease to the 18 junior and senior university students who registered for the course. The undergraduates also received hands-on experience in laboratories and engaged professionally and socially with the UM students, who shared their own experiences in graduate school. Senior Associate Dean Joseph Kolars provided Global REACH support with the purchase of microscopes for the laboratory part of the course.
UMMS Students Conduct Needs Assessment Project in Sri Lanka

University of Michigan medical students, Kashif Ahmed and Devika Bagchi, were supported by Global REACH to participate in a hypertension-focused pilot program in Summer 2014 utilizing weekly videoconferencing and a cloud-based electronic health record (EHR) system for at-risk elders, and a needs assessment for children—all of whom live at the Grace Care Center (GCC) in Trincomalee, Sri Lanka. Mr. Ahmed and Ms. Bagchi were among several medical students who have been working for more than a year to develop a telemedicine model to provide remote healthcare for GCC residents under the mentorship of Dr. Naresh Gunaratnam, a gastroenterologist from St. Joseph Hospital.

Grace Care Center was established in 2002 to provide a residential facility for orphaned children and destitute seniors displaced by civil war and the 2004 tsunami. Since its inception, Dr. Gunaratnam has served as the president of the GCC Board of Directors as well as its primary sponsor, VeAhavta, an Ann Arbor-based nonprofit. The 2014 trip was the first opportunity for UM medical students to visit GCC.

The on-site visit allowed the team to build upon an earlier hypertension project and explore other applications of the telemedicine model for GCC children and elders. They identified several future areas for intervention including lifestyle, mental health, tele-dermatology, EHR, and nonmedical projects such as a focus on academic difficulties. In addition to the specific project goals, Mr. Ahmed and Ms. Bagchi were able to overlap with volunteers both within and outside of the medical community to participate in several volunteer activities.

"In addition to the motivational benefits this experience provided me during preclinical years, it has also helped me solidify the material we learn in the classroom. My experience working with Grace residents has not only made me a more capable medical student, but also a more motivated one, with an eye towards the role I hope to play in global health work during my career.”

– M3 Kashif Ahmed

"I feel so grateful to be part of a team of tremendously talented and driven individuals working to expand the frontiers of primary care using a novel telemedicine approach at GCC. My involvement since the beginning of my M1 year has given me the unique opportunity to work closely with patients and practice skills that will no doubt serve me during my clinical years and my future.”

– M2 Devika Bagchi
Training Programs

Ghana-Michigan Post-doctoral And Research Training NEtwoRk - Investing in Innovation (PARTNER II)

The Ghana-Michigan Post-doctoral And Research Training NEtwoRk - Investing in Innovation (PARTNER II) is a five-year (August 2012-July 2017) grant funded by the Fogarty International Center, National Institutes of Health. The program is co-Directed by Dr. Thomas Robins (School of Public Health) and Dr. Cheryl Moyer (UMMS). The overall objective is the strengthening of interdisciplinary research capacity in Ghana and at the University of Michigan (UM) to address global health challenges in low- and middle-income countries. A key strategy to accomplish this goal is the annual selection of three one-year post-doctoral fellows to form an interdisciplinary team focused on a specific area of concern. The teams consist of two post-docs from Ghana and one post-doc from the US, together with senior scientist mentors at UM and at institutions in Ghana.

Three fellows participated as part of the 2013-2014 PARTNER II fellowship program, which focused on Occupational and Environmental Health (OEH) Challenges in Ghana—specifically small-scale gold mining in Ghana. Six fellows were selected to work on two interdisciplinary teams in 2014-2015. The fellows were in training at the University of Michigan from August 2014-February 2015 and in Ghana from March-August 2015. Fellows’ projects are described below.

Design and Evaluation of a Subcutaneous Contraceptive Implant Training Simulator
Fellow: Samuel Dery
Project Mentors: Dr. Kathleen Sienko and Dr. Elsie Effah Kaufmann

In 2008, the Ghana Health Service (GHS) collaborated with several key partners to train a carefully selected group of 33 Community Health Nurses (CHNs) in six regions of Ghana in the insertion and removal of Jadelle® (a subcutaneous, upper arm contraceptive implant) to augment the services being provided by midwives. An assessment of the intervention found that knowledge and skills of Jadelle insertion and removal was high, and more than 75 percent of the CHNs reported not experiencing any complications when providing the implant; and, as a result of the study, GHS revised its reproductive health policy to allow CHNs to provide implant services (Population Council, 2014). However, training all the CHNs in country remains a major challenge for the GHS.

This project seeks to develop and assess a subcutaneous contraceptive implant insertion-training simulator that provides CHNs with the needed practice to gain proficiency in the procedure. If successful, this could represent a fundamental shift in the way contraceptive training is provided in Ghana.
Maternal and Infant Survival Study (MISS)
Fellows: Dr. Ashura Bakari, April Bell, Dr. Samuel Oppong
Project Mentors: Dr. Richard Adanu and Dr. Cheryl Moyer

Maternal and neonatal mortality has been studied extensively in both developed and developing countries. A precursor to these mortalities, severe maternal and neonatal morbidity in which a mother or baby almost dies but doesn’t, is referred to as a “near-miss” event. Such events are largely unexplored. The MISS project is a mixed methods study of maternal and neonatal near-miss at three major referral sites in southern Ghana. The study is assessing the burden of maternal and neonatal near-miss and exploring the predictors and socio-cultural underpinnings of these adverse health outcomes. It aims to develop and validate a neonatal near-miss identification tool, with markers that are easy to use and feasible in resource-limited countries. The study team hopes that findings will provide useful information on biomedical and socio-cultural predictors of severe maternal and newborn ill-health, allowing for the development of appropriate interventions.

The Roles of Prototypes During Product Development
Fellow: Michael Deininger
Project Mentors: Dr. Kathleen Sienko and Dr. Elsie Effah Kaufmann

This study examined the roles of prototypes in the product development cycle and how they assist engineering students in the US and Ghana during stakeholder interactions, the identification of user requirements, and their overall contribution to a successful project outcome. By evaluating the interactions between designers and stakeholders and their perceptions of prototypes at the beginning, during, and after the design process has been completed, the study team hopes to identify deficient areas and barriers in students’ approaches that can be improved through development of refined design pedagogy.
The Northern Pacific Global Health Research Training Consortium is a partnership between the Universities of Washington, Hawaii, Michigan, and Minnesota. The Consortium is one of several across the United States that hosts the Global Health Fellowship Program, which is sponsored by the Fogarty International Center and several other institutes and offices of the National Institutes of Health.

The University of Michigan Medical School (UMMS) has made 12 awards since 2012, including two post-doctoral fellowships for 2015-2016 (April Bell and Dr. Shama Virani).

2014-2015 Fogarty Global Health Fellows

Dr. Maoyi Tian is a Research Fellow at The George Institute for Global Health at Peking University Health Science Center in Beijing, China. He used his Fogarty fellowship to conduct a study identifying the potential feasibility and acceptability of mobile communication technology for disease management among rural Chinese patients with chronic disease. Dr. Tian was mentored by Professor Yangfeng Wu, Senior Director of The George Institute, China, and Dr. John Piette, UM Professor of Internal Medicine and Professor of Health Behavior, Health Education.

Dr. Ming Yang, MAE, Director and Professor, Peking University Hepatology Institute, used her post-doctoral fellowship to investigate the differences in patient knowledge about their liver disease, satisfaction with care they receive, and preference in making medical decisions. The goal was to identify factors associated with deficiencies in patient knowledge and satisfaction with care in order to tailor interventions to reduce those deficiencies in each setting. Surveys were taken from patients attending liver clinics in the US and urban and rural China, followed by data analysis and manuscript development. Dr. Yang also executed a Hepatitis C Patients Educational Program in rural China. Dr. Yang was mentored by Dr. Anna Lok, Alice Lohrman Andrews Research Professor in Hepatology, Director of Clinical Hepatology, and Associate Chair for Clinical Research in the Department of Internal Medicine, UMMS, and Professor Lai Wei, Director and Professor, Peking University Hepatology Institute, Peking University People’s Hospital, and President of the Chinese Society of Hepatology.

“Through the guidance of my mentors, I have learned how to better design and carry out a study and how to collaborate with others and present our findings. The curricula provided by Fogarty and opportunities for discussion among fellow trainees have helped me broaden my horizons and analyze questions from a global health standpoint.”

– Dr. Ming Yang
Andrew Gardner is an M4 student in the Global Health and Disparities Path of Excellence and was the third UMMS awardee to be selected as a Fogarty trainee. As the US principal investigator, Mr. Gardner worked with his US mentor Dr. Ronald Maio, UMMS Professor Emeritus in Emergency Medicine, and Ghanaian counterparts to lead the first investigation of alcohol-related trauma in Ghana and evaluate new triage methods in order to confront the rising burden of injury. His project included implementation of alcohol testing at the Komfo Anokye Teaching Hospital Emergency Department as standard of care, collection of data from 1,100 injured patients, and administration of 400 surveys on harmful alcohol use patterns. He also helped create educational sessions for physicians new to research to promote active learning through structured participation in data analysis and manuscript writing.

2015-2016 Fogarty Global Health Fellows

April Bell, MPH, is a research fellow at the University of Michigan whose long-term goal is to develop, implement, and disseminate interventions to address women’s health in sub-Saharan Africa. During her Fogarty Fellowship year she seeks to determine the impact of “near-miss” mortality on 1-year maternal and neonatal survival at three hospitals in southern Ghana. “Near-misses” are usually defined as life-threatening events in which a mother or an infant nearly dies, but doesn’t. Women who experience near-miss are at great risk of dying and experiencing a range of other adverse outcomes during the year following the near-miss, yet relatively little attention has been paid to those women and neonates who survive the complications that are the main cause of maternal and neonatal mortality. The specific aims of her study are to determine the 1-year survival rate of women and infants who experienced a near-miss event and to identify the clinical, social, and cultural factors that are associated with that survival. Ms. Bell will be co-mentored by Dr. Cheryl A. Moyer, Assistant Professor in the Departments of Learning Health Sciences and Obstetrics and Gynecology at the University of Michigan, and Dr. Richard Adanu, Dean of the School of Public Health at the University of Ghana.

Dr. Shama Virani completed her PhD in Toxicology at the University of Michigan School of Public Health and is currently a postdoctoral fellow in the Department of Computational Medicine and Bioinformatics. Dr. Virani’s research project will focus on breast cancer surveillance and prevention in southern Thailand. Specifically, she will launch a breast cancer case-control study to determine the population-specific genetic and epidemiologic risk factors that are contributing towards the largely increasing trends of breast cancer incidence. Dr. Virani will be working with Dr. Laura Rozek at the UM School of Public Health and Dr. Hutcha Sriplung at Prince of Songkla University in Hat Yai, Songkhla, Thailand.

“The demands and opportunities of the Fogarty Scholarship have been instrumental in shaping my understanding of current and emerging challenges in the field of global health, and in appreciating the importance of generating evidence to guide utilization of scarce resources in low and middle income countries.”
– M4 Andrew Gardner

Dr. Shama Virani (right) is shown with Dr. Hutcha Sriplung who co-mentored her on her breast cancer surveillance and prevention project in southern Thailand.
**Visiting Fellows and Scholars**

**July 2014–June 2015**

- 17 international fellows and scholars
- 6 different countries
- 10 UMMS host units
- 92 total months of collaboration

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**Dr. Ljubinka Spirkoska** (July 1–31, 2014)
Civil Hospital, Skopje, Macedonia
UM host/s: Psychiatry (Dr. Stephan Taylor)

**Dr. Hara Fumi** (July 28–Aug 10, 2014)
Niigata Medical Center, Niigata, Japan
UM host/s: Internal Medicine (Dr. Sanjay Saint)

**Dr. Fernanda Cano Casarotto** (Aug 2–Oct 1, 2014)
Federal University of Rio Grande do Sul, Porto Alegre, Brazil
UM host/s: Oncology and Hematology

**Dr. Darko Talevski** (Sept 1–Oct 3, 2014)
University of Ss. Cyril & Methodius Medical Faculty, Skopje, Macedonia
UM host/s: Orthopedic Surgery (Dr. James Carpenter)

**Dr. Zhou Xin** (Oct 15, 2014–Feb 28, 2015)
Peking University Medical College, Beijing, China
UM host/s: Learning & Health Sciences

**Dr. Biljana Eftimova** (Nov 23–Dec 19, 2014)
Ss. Cyril and Methodius University Department of Anesthesiology, Reanimation and Intensive Care, Skopje, Macedonia
UM host/s: Anesthesiology (Dr. Milo Engoren)

**Dr. Yong Wang** (Jan–Dec 2015)
Institute for Cardiovascular Surgery at Xinqiao Hospital, 3rd Military University, Chong Qing, China
UM host/s: Cardiovascular Center (Dr. Bo Yang)

**Dr. Fabiana Faleiros Santana** (Jan–Mar, 2015)
University of São Paulo Nursing School at Ribeirão Preto, Brazil
UM host/s: Spinal Cord Injury Model System (Dr. Denise Tate)
Dr. Edward Dassah (Jan 4–Mar 27, 2015)
Komfo Anokye Teaching Hospital, Kumasi, Ghana
UM host/s: Obstetrics & Gynecology

Dr. Hassan Kaleem (Jan 5–16, 2015)
Tamale Teaching Hospital, Tamale, Ghana
UM host/s: Orthopedic Surgery (Dr. James Carpenter)

Dr. Kwabena Amo-Antwi (Feb 1–May 1, 2015)
Komfo Anokye Teaching Hospital, Kumasi, Ghana
UM host/s: Obstetrics & Gynecology

Dr. Julijana Mudinova (Apr 1–June 1, 2015)
University Clinic for Orthopedic Surgery, Skopje, Macedonia
UM host/s: Physical Medicine & Rehabilitation

Dr. Xiuhua Wang (Apr 1, 2015–Mar 31, 2016)
Children’s Hospital of Fudan University, Shanghai, China
UM host/s: Cardiovascular Center (Dr. Bo Yang)

Dr. Michael Yeboah (Apr 17–May 9, 2015)
Komfo Anokye Teaching Hospital, Kumasi, Ghana
UM host/s: Obstetrics & Gynecology

Dr. Patricia Guzman Rojas (May 1–June 1, 2015)
Universidad Peruana Cayetano Heredia, Lima, Peru
UM host/s: Internal Medicine (Dr. Gregory Kalemkarian)

Drs. Gustavo Maciel, Edmund Baracat, and José Maria Soares
(June 27–30, 2015)
University of São Paulo Medical School, São Paulo, Brazil
UM host/s: Obstetrics & Gynecology (Dr. Senait Fisseha)

Drs. Kwabena Amo-Antwi (left) and Michael Yeboah from the Komfo Anokye Teaching Hospital, Kumasi, Ghana, were hosted by the Department of Obstetrics & Gynecology

Dr. Julijana Mudinova (right) is shown with UMMS faculty Dr. Vladimir Ognenovski (Internal Medicine) and Carole Dodge (Physical Medicine and Rehabilitation)

(left-right) Drs. Gustavo Maciel, Edmund Baracat, and José Maria Soares visited Ann Arbor in June 2015
Visiting Students and Trainees

Nihan Gurkan (July 3–Aug 3, 2014)
Istanbul University Cerrahpasa Medical Faculty, Istanbul, Turkey
UM host/s: Obstetrics & Gynecology

Peking University Health Science Center, Beijing, China
(July 5–Aug 2, 2014)
Sinjin Ren (Psychology; Dr. Kent Berridge)
Wenying Liang (Internal Medicine; Dr. Eugene Chen)
(Quly 20–Aug 16, 2014)
Qiaosi Tang (Internal Medicine; Dr. Shaomeng Wang)

Miriam Chigbu (July 21–Aug 10, 2014)
University of Nigeria, Nsukka, Nigeria
UM host/s: Obstetrics & Gynecology

Xiangya Medical University (Aug 1, 2014–July 31, 2016)
Xiangya Medical University, Changsha, Hunan Province, China
Pei Li (Molecular and Integrative Physiology; Dr. Bishr Omary)
Xueying Liu (Internal Medicine; Dr. Subramaniam Pennathur)
Lunchang Wang (Cardiac Surgery; Dr. Bo Yang)
Wei Xiong (Internal Medicine; Dr. Eugene Chen)
Mi Zhang (Urology/Pathology; Dr. Evan Keller)

Cape Coast University School of Medical Sciences, Cape Coast, Ghana (Aug 4–29, 2014)
Akua Afyie Manu
Adwoa Ansomaa Akumah
UM host/s: Obstetrics & Gynecology

Emmanuel Ofori (Aug 4–29, 2014)
Kwame Nkrumah University of Science and Technology, Kumasi, Ghana
UM host/s: Internal Medicine

Kwame Nkrumah University of Science and Technology, Kumasi, Ghana (Sept 1–28, 2014)
Fuzaila Saaka-Bumba (Surgery)
Hassana Addai-Boateng (Surgery)
Loretta Akosua Konadu (Internal Medicine)
Christopher K. Asare (Surgery)
Kwabena Ababio (Obstetrics & Gynecology)

University of Ghana Medical School, Accra, Ghana (Sept 29–Oct 26, 2014)
Jeffery Owusu Boateng
Mark Anthony Ntow
Raphael Quist Martey
UM host/s: Obstetrics & Gynecology

Peking University Health Science Center, Beijing, China (Nov 24–Dec 21, 2014)
Chang Wang (Surgery)
Chen Liang (Urology/Emergency Medicine)
Chien-Ting Gao (Internal Medicine)
Jiwei Wang (Surgery)

University of Tokyo Medical School, Tokyo, Japan (Jan 8–Feb 8, 2015)
Jun Matsuda (Anesthesiology)
Takahiro Jimba (Emergency Medicine)

University of São Paulo Medical School, São Paulo, Brazil (Jan 8–Mar 8, 2015)
Ana Flavia Garcia Silva (Internal Medicine/OBGYN)
Edgard Hara Katayama (Psychiatry/Internal Med/General Med)
Wellington Mardoqueu Candido (Emergency Med/Pediatrics)
Ligia Braga Lopes Couceiro (Psych/Internal Med/General Med)

Mohammad Munir Al-Rusan (Jan 8–Mar 8, 2015)
Jordan University of Science and Technology, Irbid, Jordan
UM host/s: Obstetrics & Gynecology

Christopher Tallman (Feb 2–May 31, 2015)
Medical University of the Americas in the Caribbean, Whitehall, West Indies
UM host/s: Surgery and Urology

Maria Belen Solis Mayorga (Feb 5–Mar 7, 2015)
Pontificia Universidad Catolica del Ecuador, Quito, Ecuador
UM host/s: Internal Medicine
Visiting Students and Trainees

July 2014–June 2015

- 48 international students and trainees
- 11 different countries
- 15 UMMS host units
- 110 total months of training

University of Tokyo Medical School students, Takahiro Jimba (left) and Jun Matsuda (right), show their UMMS clinical elective certificates of participation

Riho Hashimoto (Feb 7–Mar 29, 2015)
Kyoto University, Kyoto, Japan
UM host/s: Endocrinology (Dr. Tae-Hwa Chun)

Wenqing Yuan (Mar 1–Aug 31, 2015)
Peking University Health Science Center, Beijing, China
UM host/s: Human Genetics Department (Dr. Jun Li)

Ss Cyril and Methodius School of Medicine, Skopje, Macedonia
(Mar 5–May 2, 2015)
Dejan Jakimovski (Radiology)
Gregor Krstevski (Internal Medicine)
Ivo Paunkoski (Internal Medicine)
(Apr 2–May 2, 2015)
Nikolaj Klijusev (Radiology)

Ko Harada (Mar 5–Apr 4, 2015)
Okayama University Medical School, Okayama, Japan
UM host/s: Internal Medicine

Fanny Ti (Mar 8–Apr 5, 2015)
University of Nottingham, England
UM host/s: Surgery – Division of Plastic Surgery (Dr. Jeffery Kozlow)

Meng Shen (Apr 2–May 3, 2015)
Shanghai Jiao Tong University School of Medicine, Shanghai, China
UM host/s: Emergency Medicine

Karen Tomimura (Apr 2–May 3, 2015)
Okayama University Medical School, Okayama, Japan
UM host/s: Internal Medicine

Peking Union Medical College students, Beijing, China
(Apr 2–May 3, 2015)
Zhenlei Liu (Surgery)
Shu Shi (Neurology)
Tao Xixi (Surgery)

Tareq Ammar (Apr 13–June 14, 2015)
Imperial College, London, England
UM host/s: Plastic Surgery

Visiting students enjoy the UM spring football game. Shown (left-right) are: Meng Shen, Shu Shi, and Karen Tomimura (Okayama University); Fawaz Yousuf (AIIMS); Ko Karada (Okayama University); and Zhenlei Liu and Xixi Tao (Peking Union Medical College)
Global REACH celebrated many events and activities over the past year; some large, some small. Along with the research and education initiatives highlighted in previous sections of this report, Global REACH supported the Medical School’s involvement in several public events and hosted the visits and tours of more than 150 guests from around the world.

Several large events were facilitated by Global REACH during this fiscal year, including the 4th Annual Symposium of the Joint Institute for Translational and Clinical Research; the inaugural symposium for the Brazil Platform; the 4th Annual Sujal M. Parikh Memorial Symposium for Health and Social Justice; and the EM-PACE Symposium held in Addis Ababa, Ethiopia.

Smaller events included public lectures and discussions focused on global health topics, which brought together participants from across the University.

Photo: Attendees of the 2014 UM-Brazil Platform Symposium enjoy the season’s first snow
The Fourth Annual Symposium of the Joint Institute was held in Ann Arbor, October 1-3, 2014. The University of Michigan Medical School welcomed participants from the Ann Arbor area as well as more than 50 colleagues from the Peking University Health Sciences Center (PUHSC) and other institutions in China.

The Joint Institute (JI), a partnership between the University of Michigan Health System and Peking University Health Sciences Center, was launched in October 2010 and sponsors high-impact collaborative research that leverages the unique strengths of each university to advance global health. The location of its annual meetings alternates each year: during the odd years, PUHSC hosts the symposium in Beijing. During the even years, the meetings move to the University of Michigan’s main campus in Ann Arbor.

The symposium began with activities hosted by the Michigan Institute for Clinical & Health Research (MICHR). In it’s inaugural symposium, Coloring Outside the Lines: Innovating and Collaborating in the Changing World of Research, MICHR greeted more than 350 participants including investigators from the Joint Institute, some of whom served as speakers. The evening celebrated the annual alumni dinner, where more than 60 alumni of PUHSC—now living in Michigan—gathered on a warm autumn night at a local rural home.

Day two of the JI Symposium began with opening remarks from Dr. James Woolliscroft, University of Michigan Medical School Dean, and Professor Yang Ke, Executive Vice President of Peking University and PUHSC. It featured keynote addresses from Professor Lai Wei, Director and Professor, Peking University Hepatology Institute, and Vice President, Second Hospital, PUHSC, and Dr. Gilbert Omenn, Professor of Computational Medicine & Bioinformatics, Molecular Medicine & Genetics, Human Genetics, and Public Health, University of Michigan. The day’s activities included a panel discussion on the challenges and opportunities in sustaining research initiatives as well as concurrent sessions on cardiovascular, GI and liver, pulmonary, and renal diseases, and on biorepository/biomedical informatics and big data. The annual JI banquet was held that evening, at which time institutional gifts were exchanged and the guests were entertained by the University of Michigan Men’s Glee Club.

The final day of the symposium focused on specific JI research programs and projects. Research programs held individual sessions and then convened to hear updates from the 11 existing research projects and introductions to the seven newly funded projects.

More information about the Joint Institute and the 2014 symposium program book is available online at www.puuma.org
PUHSC Alumni Dinner

The Peking University Health Science Center Alumni Association of Michigan event was held in conjunction with the Fourth Annual JI Symposium. This annual event is an opportunity for PUHSC alumni, whether in Michigan or in China, to meet each other, reflect on their shared experiences at PUHSC, and discuss insights and resources. More than 100 participants attended this year’s event, including the JI delegation from PUHSC, local PUHSC alumni, consuls from the office of the Consulate General of P. R. China in Chicago, and long-time supporters of the UM-China initiatives, Richard Rogel and Bill and Dee Brehm.

Guests were able to enjoy a warm fall evening at a rural lake home just outside of Ann Arbor, surrounded by fruit orchards, gardens, and good friends. Hosts included Dean James Woolliscroft, Drs. Joseph Kolars, Amy Huang, and Eugene Chen from UMMS and Professors Yang Ke, Weigang Fang, and Liping Duan from PUHSC. Alumni participated in a raffle drawing to win gifts representing the history of the PUHSC Alumni Association and signed a banner with the PUHSC Alumni Association logo to show their support of the activity.
Sujal M. Parikh Symposium

Symposium Honors Former UMMS Student

Sujal Parikh was an M4 student participating in a one-year Fogarty International Fellowship in Uganda when a tragic road accident claimed his life on October 10, 2010. He had been in Uganda for just a few months working to address medical education issues and tackle critical problems associated with pediatric HIV/AIDS at the Joint Clinical Research Centre in Kampala. Sujal was born and raised in Dallas, Texas, the only child of Manoj and Sita Parikh. He received his undergraduate degree in public health and neurobiology from the University of California, Berkeley.

Sujal’s passing had a profound effect on the University of Michigan Medical School community — even on those who didn’t know him well. He was passionate about social justice, access to medicines, medical education, and addressing human rights and health care disparities across the globe. He provided dedicated service and inspirational leadership to many groups including Physicians for Human Rights, the Global Health Education Consortium, Universities Associated for Essential Medicines, American Medical Student Association AIDS Advocacy Network, and the Uganda Village Project. Sujal was a passionate believer in the collective power of committed individuals to advance health and social justice, and he leveraged his networks within these organizations to make each of them stronger. Full of charisma and compassion, Sujal forged communities of friends and colleagues around the world.

In the wake of his untimely loss, those who loved him and were inspired by him came together to honor his work by creating the Sujal M. Parikh Memorial Symposium for Health and Social Justice. Each year, the symposium brings together a diverse group of students and professionals to learn from one another, create lasting connections, and generate new ideas for the advancement of health and social justice.

Save the Date: The 5th Annual Symposium will be held in Ann Arbor on November 21, 2015
Learn more at globalreach.med.umich.edu/sujal-parikh-memorial-symposium
Fourth Annual Sujal Parikh Memorial Symposium for Health and Social Justice: *Passion, Partner, M-Power*

The 2014 conference focused on promoting passion and innovation, fostering interdisciplinary partnerships, and empowering participants to execute real-world initiatives. The symposium sought to provide attendees with practical tools, resources, and networks to enhance and inspire their health and social justice work.

**Symposium Activities**

- **Keynotes:** Dr. Vincent Iacopino, Senior Medical Advisor for Physicians for Human Rights and Senior Research Fellow at the Human Rights Center, University of California Berkeley; Mr. Jonathan Shaffer, Community Engagement Coordinator for Partners in Health

- **Panel Sessions:** Included roles of faith-based vs. government and public initiatives in global health; challenges and successes in veteran care; youth empowerment solutions through community change; a success story on tuberculosis advocacy; vaccine coverage disparities in Shanghai; and a novel, student-led mobile medical outreach model for the unreached, service-resistant homeless of Detroit.

- **Design Sessions:** How to approach problems in health and social justice (OptiMize Michigan); What comes next? Re-envisioning global engagement at the UM (Design + Business Club)

- **Lightning Talks:** Role of academic institutions in global health; art and science of community health engagement; intersection of medicine and law in the pursuit of human rights; engaging men as allies to end gender-based violence; ending mass incarceration in Michigan; and global health market dynamics

- **Action Stations:** Included signing legislative petitions in favor of gun reform and against sweatshops; open letter to Ferguson, MO; health and human rights work in Southwestern Uganda-Progressive Health Partnership; Central Michigan University Chapter Integrated Healthcare for the Homeless

- **Posters Sessions:** 22 posters exhibited research projects related to health and/or social justice.

_Sponsored by the Sujal M. Parikh family, Global REACH, the Global Health & Disparities Path of Excellence, MESA/Trotter Multicultural Center, University of Michigan Public Health Student Assembly_
The 2014 UM-Brazil Platform Symposium Collaborating to Study and Improve Health was held on November 12-13 in Ann Arbor. The aim of this symposium was to bring together Brazilian collaborators and their University of Michigan Medical School (UMMS) partners to discuss recent achievements and share results of joint research, as well as to foster the creation of new partnerships. Most of the visitors from Brazil were from the University of São Paulo Medical School (FMUSP).

The event sessions were geared to advance the establishment of formal programs for the exchange of medical students, residents and scholars in basic and clinical sciences, and to plan joint educational activities, such as bi-institutional courses and webinars.

**Keynote Addresses**

- *Lessons on Effective Partnerships from 30 Years working with Partners in Ghana*
  Dr. Timothy R. B. Johnson (UMMS)

- *USP Medical School - A Centenary Institution in the Era of Global Health*
  Dr. José Otávio Costa Auler Júnior (FMUSP Dean - via teleconference)

- *How to Build Ethics and Values into Collaborations: Insights from UM-Ethiopia Collaboration*
  Dr. Senait Fisseha (UMMS)

- *How FMUSP and UMMS Have Sought to Develop and Nurture International Collaborations: Lessons for UM-Brazil Initiatives*
  Dr. Ana Claudia Latronico (CRInt - FMUSP)
  Dr. Joseph Kolars (Global REACH - UMMS)
Roundtable Discussions

- Key lessons, challenges, and achievements from longer-term UM/Brazil collaborations
- Enabling sustained collaboration - institutional support
- Effectively mentoring and incorporating students into ongoing collaborations
- Recent UM-Brazil collaborations, including: History of Medicine, Milk Bank Project, Plastic Surgery Residency Exchange Program, Collaborations in Ophthalmology, and ELSA Survey Projects with FIOCRUZ

Thematic Sessions Break-outs

- Studying health culture - its history and context
- Understanding and addressing social determinants of health in primary care
- Combining forces to study rare diseases
- Collaborations on women and infant’s health
- Developing successful residency program collaborations
- From bench to bedside - Operationalizing UM-Brazil translational research partnerships

The symposium was co-sponsored by Global REACH and the Brazil Initiative at the Center for Latin American and Caribbean Studies (LACS), and organized under the leadership of Drs. Michele Heisler (Global REACH), Alexandra Minna Stern (LACS / Brazil Initiative), and Elisa Duarte Teixeira (Global REACH). UMMS medical students served as rapporteurs.

For more information and to view speaker presentations and photos, please visit http://globalreach.med.umich.edu/collaboration/brazil
A record high attendance for the annual meetings of the Consortium of Universities for Global Health (CUGH) brought nearly 1700 people to Boston for its 6th anniversary held March 26-28, 2015. The theme of the 2015 conference was *Universities 2.0: Advancing the Global Health Agenda in the Post-Millenium Development Goals Era*. Among the participants were 22 faculty, staff, and students from the University of Michigan (UM), the majority coming from the Medical School (UMMS).

**UM presentations (primary author in bold):**

- **Ghanaian midwifery students’ perceptions and experiences of disrespect and abuse during childbirth;** Sarah Rominski and Cheryl Moyer (UMMS), Jody Lori (UM)

- **Preparing medical students for field experiences in low-resource settings:** Development and evaluation of a pre-travel trigger video and large group discussion module; Patricia Mullan, UMMS

- **Improving health literacy through facilitated group focused antenatal care;** Jody Lori and Michelle Munro (UM), Henrietta Ofosu-darkwah (Ghana Health Service), Meagan Chuey and Carol Boyd (UM), Richard Adanu (University of Ghana)

- **Building the ISRPM Disaster Acute Rehabilitation Team Program;** Josh Verson and Andy Haig (UMMS)

- **The International Rehabilitation Forum: An academic consortium that builds medical rehabilitation in low-resource regions through participation, mentoring, and disruptive innovation;** Andy Haig, S Loar, and Tom Haig (UMMS & collaborators)

- **Emergency nursing in Ghana: Outcomes after a five year pilot program;** Sue Anne Bell and Richard Redman (UM), Victoria Bam (KNUST)

- **Comparing the syndromic approach with point-of-care testing in treatment of STIs at St. Paul’s Hospital in Addis Ababa, Ethiopia;** Jason Bell (UMMS), Sunasia Echols, Emilia Iglesias, and Ninette Musili, (UM), Azeb Kebede, Yeshwondm Mumuye, and Balkachew Nigatu, (St. Paul’s Hospital), Okeoma Mmeje (UMMS)

- **The impact of an elective on disability and global health on the perception of medical students regarding persons with disabilities;** Elizabeth Feenstra, Andy Haig, Karla Blackwood, and Tom Haig (UMMS)

- **Ghana’s disability community;** Tom Haig (UMMS Collaborator)

**Winner: CUGH’s Global Health Video Competition in the Innovations in Global Health**

*The full program for the 2015 CUGH meetings can be found at cugh.org/events/conference2015*
In a reprise of last year’s successful inaugural event, more than 200 participants filled the Kellogg Eye Center for the 2nd Annual Kellogg International Night on September 22, 2014. Drawn in large part by the opportunity to hear from and meet the keynote speaker Dr. Sanduk Ruit, faculty, house officers, staff, and students from across the campus gathered to learn about the recent and growing body of ophthalmology initiatives abroad.

Sanduk Ruit, MD, is a Nepalese ophthalmologist, world-renowned for his work in reversing cataract blindness in the developing world. Having performed more than 100,000 cataract surgeries, Dr. Ruit uses a procedure known as the “manual small-incision cataract surgery,” ideal for low-resource countries as it is takes just a few minutes to perform and does not require the use of expensive equipment.

Joining Dr. Ruit at the event, was his colleague and co-founder of the Himalayan Cataract Project, Geoffrey Tabin, MD, Professor of Ophthalmology at the University of Utah. Drs. Ruit and Tabin established the Himalayan Cataract Project in 1995 as a charitable organization to create ophthalmic surgical centers and train ophthalmic personnel. Since that time, more than 100 doctors and 100 ophthalmic assistants have been trained in modern cataract surgery techniques. Each year the teams are able to screen more than 200,000 patients and perform more than 12,000 surgeries. During his visit, Dr. Ruit was named the second Scholar-in-Residence of Kellogg Eye Center International Office (KECIO).

KECIO is supported by a grant from the Jerome Jacobson Foundation and is dedicated to facilitating international exchanges in ophthalmology. It is co-directed by Drs. H. Kaz Soong and Jonathan Trobe. Ms. Donna Donato serves as administrative director.

The evening included a buffet dinner, many opportunities to engage, and short presentations and posters covering the overseas activities of students and faculty. Other speakers included Dr. Joseph Kolars, Professor of Health Professions Education, and Senior Associate Dean for Education and Global Initiatives; Dr. Jonathan Greene, Kellogg Assistant Professor of Ophthalmology; and UM students Taylor Moberg (senior undergraduate), Erica Rose (Ross School of Business and the School of Public Health), and Steven Weinberg, (third-year medical student).
Global REACH Public Lectures

Survey Research Approaches to Global Health Research  
October 22, 2104

William Axinn, PhD  
Director, Survey Research Center, Institute for Social Research,  
University of Michigan

Dr. Axinn studies the relationships among social change, family organization, and intergenerational relationships as well as the development of new methods for collecting social science data.

Based on his experiences developing and implementing surveys in international settings, including both developing and developed countries and both small- and large-scale projects, Dr. Axinn provided case studies of what is possible for global collaboration.

Overview of the Duke Global Health Institute  
April 9, 2015

Michael Merson, MD  
Founding Director, Duke Global Health Institute (DGHI)  
Wolfgang Joklik Professor of Global Health, Duke University

DGHI is considered one of the most prominent educational institutions making major headway with regards to university-wide global initiatives and it offers the most comprehensive portfolio of global health programs of any university in the US. In his talk, Dr. Merson covered a variety of topics included funding sources, the integration of involvement across various schools and colleges, and how Duke determines its priority areas.

Building Strong Training and Research Collaboration: A Novel South-South and South-North Partnership  
May 26, 2015

Jean Nachega, MD, PhD  
Associate Professor, Pittsburgh Graduate School of Public Health  
Professor Extraordinary, Department of Medicine, Stellenbosch University, Cape Town, South Africa

Dr. Nachega is board-certified in Internal Medicine and Infectious Diseases, with a career focus on optimizing clinical and public health outcomes in HIV-infected adults in sub-Saharan Africa. His talk focused on approaches to enable systems in low-resource settings to improve care and health outcomes through research.
The Role of Family Physicians After the March 11, 2011 Tsunami Disaster in Japan
March 11, 2015

Yukishige Ishibashi, MD
Dr. Yukishige Ishibashi is a practicing family physician, national leader in organized family medicine, and community faculty member for multiple institutions in Japan. After the Great East Japan Earthquake in March, 2011, he led the Japan Primary Care Association relief response. Based on his experiences, Dr. Ishibashi spoke about lessons learned, especially the value of multidisciplinary collaboration for disaster victims and the implications for disaster preparedness. Specifically, he emphasized continuity, permanency, and respect for the local people and their culture, as well as rights to health care and differential impacts on vulnerable populations.

Co-sponsored by the Consulate-General of Japan in Detroit, the Japan Business Society of Detroit, the University of Michigan Human Rights Initiative, the University of Michigan International Institute, the University of Michigan Medical School Global REACH, and the University of Michigan Health System Japanese Family Health Program
60th Annual Student Biomedical Research (SBRP) Fall Forum  
November 16, 2014

The research of more than 100 UMMS students was presented at the annual SBRP Fall Forum, which showcases student research projects funded by the National Institutes of Health Student Biomedical Research Program and the O’Brien Kidney Research programs. Each of the projects requires a faculty mentor from the University of Michigan.

Among the featured international projects were:

- **Evaluation of behavioral counseling of community health agents in pilot diabetes self-management intervention in São Paulo, Brazil**, presented by Pooja Agrawal and Siman Mand. Lead mentor on this project was Dr. Michele Heisler.
- **Comparing the syndromic approach with point-of-care testing in treatment of STIs at St. Paul’s Hospital in Addis Ababa, Ethiopia**, presented by Sarah Bell. Ms. Bell was mentored by Dr. Jason Bell (no relation).
- **The relationship between physical development and cognitive performance outcomes in preschool-age Ugandan children perinatally exposed to HIV**, presented by Sarah Blass, Nikita Jambulingam, and Eric Spencer. Mentorship was provided by Drs. Bruno Giordani and Michael Boivin.
- **Differences in patient knowledge, satisfaction with care and preferences in medical decision-making at US and Chinese Hepatology Clinics**, presented by Fanny Du. Ms. Du was mentored by Dr. Anna Lok.
- **Determining genetic susceptibility for triple negative breast cancer among women with African ancestry**, presented by Alana Eason. Ms. Eason was mentored by Dr. Lisa Newman and included Ghanaian, African American, and Caucasian American women in the study.
- **Comparative analysis of cesarean section indications, outcomes, and costs at Consolata Hospital, Nkubu, Kenya and the University of Michigan Health System, Ann Arbor, MI**, presented by Erica Heisel, Vikas Jayadeva, Shailly Prasad, and David Sanford. The group of students were mentored by Drs. Lori Day and Dan Clauw.
- **Association of blood cadmium and lead with prevalence of chronic kidney disease in South Korea and the United States**, presented by Jonathan Hung. Dr. Jennifer Bragg-Gresham served as Mr. Hung’s primary mentor.
- **Identifying previously undefined triple negative breast cancer subtypes using tissue microarrays (which included data from Ghanaian women)**, presented by Jennifer Jehnsen. Ms. Jehnsen was mentored by Dr. Lisa Newman.
- **Depression, social support, and social undermining among cancer patients in Quito, Ecuador**, presented by Stephen Lichtenstein. Mr. Lichtenstein was mentored by Drs. Melvin McInnis and Sofia Merajver.
- **The state of reproductive services for HIV-affected individuals at St. Paul’s Hospital Millennium Medical College, Addis Ababa, Ethiopia**, presented by Alana Pinsky. Dr. Okeoma Mmeje served as the primary mentor on this project.
In addition to hosting international scholars and learners, Global REACH also facilitates the visits of institutional delegations or individual dignitaries who come to the medical campus each year. More than 50 institutional leaders constituted this year’s visits, including:

Addis Ababa University, Ethiopia
Agizew Nigussie Engida, Chair, Water Master Plan Committee, City of Addis Ababa
Bikila Teklu Wodajo, Dean, School of Civil and Environmental Engineering, AAIiT
Frehiwot Woldehanna Bayou, Chair of Biomedical Engineering Department, AAIiT
Kassahun Tesfaye Geletu, Director of IoB
Young Kyun Kim, Director of AAIiT
Milliard Derbew, College of Health Sciences, School Of Medicine
Dr. Zerihun Abebe, Provost, St. Paul’s Hospital Millenium Medical College

National Taiwan University, Taiwan
Shan-Chwen Chang, Dean, National Taiwan University, College of Medicine
Yen-Hsuan Ni, Chairman of Department of Medical Genetics and Associate Dean for Educational Affairs
Tsai-Kun Li, Associate Dean, College of Medicine

Peking University Health Science Center, Beijing, China
Shandong Xu, Director, Office of Laboratory and Equipment Management and Vice General-Secretary
Yan Xu, Deputy Director Office of Medical Education
Yu Wang, Secretary-General, Union of Finance
Lei Guo, Deputy Director, Office of Science and Technology Development and Deputy Dean, School of Innovation and Entrepreneurship, Peking University
Changliang Dai, Deputy Director of the Office of Human Resources

Shanghai Jiao Tong University, Shanghai, China
Sixian Jiang, Chairman, Shanghai Jiao Tong University Council
Wenning Jiang, Personal Assistant to the Chairman
Weimin Zhang, Director, Division of International Cooperation & Exchange
Wei Lu, Associate Dean, Antai School of Economics and Management
Jun Xu, Regional Director, Division of International Cooperation & Exchange

University of São Paulo Medical School, São Paulo, Brazil
Dr. José Otávio Auler, Dean
Dr. Edmund Chada Baracat, President of Undergraduate Medical Education Commission
Dr. Aluísio Segurado, Director of their International Relations Commission Office
At a large and diverse institution like the University of Michigan, building a community around the equally large and diverse topic of global health has long been challenging.

Global REACH has focused efforts on building the UMMS global health community through many of the collaboration, research, and education initiatives described in this report, as well through the co-sponsorship of public events. In addition, our Global Initiatives Forum and Faculty Associate and Faculty Affiliate Programs have strengthened relationships across UMMS and beyond.

It is our hope that creating these networks will help keep us all better informed about the international activities in which our medical school faculty are engaged.

**Photo**: Global Visitors Coordinator, Carrie Ashton, helps create a feeling of community for Global REACH visitors. Here she is shown (3rd from left) following a raft and canoe trip down the Huron River at Gallup Park in Ann Arbor with visiting students from Peking Union Medical College in China and Ss. Cyril & Methodius University in Macedonia.
One important goal of Global REACH is to encourage the growth of a community of researchers, clinicians, and educators at the University of Michigan Medical School (UMMS) who are interested in and committed to global health. With 29 departments and more than 2000 faculty, the Medical School has a vibrant and diverse portfolio of faculty with global health engagements; yet the size and diversity often makes it difficult for faculty from different departments to appreciate the activities of their colleagues and to realize the potential for synergy. With that in mind, Global REACH launched the Global Initiatives Forum in June 2012 followed by a Faculty Associate program in February 2013. In August 2014, Global REACH launched a Faculty Affiliate program to include faculty beyond the Medical School and established an Advisory Board comprised of global health leaders from other campus units.

Global Initiatives Forum
The Forum consists of representatives from clinical and basic science departments who have expressed an interest in sharing their global health work or learning about others’ efforts. Led by Dr. Joseph Kolars, Josiah Macy, Jr., Professor of Health Professions Education and Senior Associate Dean for Education and Global Initiatives, the forum meets 6-10 times per year to share best practices, discuss funding strategies, and present case studies of successful global health endeavors.

Faculty Associate Program
Global REACH Faculty Associates are UMMS faculty who have gone through a formal application process and thus become eligible to compete for Global REACH intramural funding (e.g. faculty-led student projects) and gain facilitated access to trainees interested in committing their time to global health-related projects. Bringing together like-minded researchers, educators, and clinicians helps to maximize the impact of our global activities and transcend individual interests.

Faculty Affiliate Program
Faculty Affiliates may be members of any UM school or department who are interested in participating in our global health community to deepen and strengthen ties and help improve communication and collaboration across units. Affiliates are typically nominated by current Global REACH Faculty Associates and also go through a formal application process.
Global REACH Advisory Board
Paul Clyde, PhD; President, William Davidson Institute; Tom Lantos Professor of Business Administration, Ross School of Business; Movses and Maija Kaldjian Collegiate Lecturer of Business Economics and Public Policy
David Lam, PhD; Director, Institute for Social Research; Professor of Economics, College of Literature, Science, & the Arts; Research Professor, Population Studies Center
Jody Lori, PhD, CNM, FACNM, FAAN; Associate Professor, School of Nursing; Senior Director of Global Affairs and Director of the WHO Collaborating Center
Thomas Robins, PhD, MPH; Professor of Environmental Health Sciences, School of Public Health; Professor of Internal Medicine, Medical School
Lawrence Root, PhD, MSS; Professor and Director of Office of Global Activities, School of Social Work
Kathleen Sienko, PhD; Miller Faculty Scholar Associate Professor, Mechanical Engineering and Biomedical Engineering, College of Engineering

Current Faculty Associates and Affiliates
Nearly all of the UMMS clinical and basic science departments are represented in the Faculty Associate program, with the largest numbers coming from Internal Medicine, Obstetrics & Gynecology, Ophthalmology & Visual Sciences, and Surgery. There are currently 13 members in the Faculty Affiliate program, which began in Summer 2014. The Affiliates represent eight different units from across the University of Michigan campus.

Current Faculty Associates and Affiliates are shown in the pages that follow. Information includes their home department, global health research focus, and country/ies of interest. Some recent global health highlights and recognitions are also included.
Global REACH Faculty Associates
J Brian Byrd, MD, MS  
Cardiovascular Medicine  
Improving the health of patients with high blood pressure, the leading risk factor for global disease burden, in collaboration with partners in other countries; Brazil, Chile, China, Australia

Andrew Campbell, MD  
Pediatrics & Communicable Diseases  
Investigating the differences of the Sickle Cell Disease Phenotype internationally in pediatric and adult patients; investigating healthcare disparities in Sickle Cell Disease care and outcomes; Ghana, Italy

Sally A Camper, PhD  
Human Genetics  
The study of rare diseases, particularly disorders of craniofacial development that affect pituitary function and/or hearing; Brazil, United Kingdom, France, India, Japan

Vineet Chopra, MBBS, MD, MSc  
Internal Medicine  
Developing mutually beneficial research and educational collaborations between India and the United States; India

Tae-Hwa Chun, MD, PhD  
Internal Medicine  
Teaching bench research and clinical skills necessary to understand the pathogenesis of metabolic and endocrine disorders, particularly obesity and diabetes; Japan

Kevin C Chung, MD, MS  
Surgery  
Outcomes research, assessment of health care quality, clinical trials, economic analysis in healthcare, and epidemiology and statistical issues in surgery; China, India, and other countries within Asia

Yolain Civil, MD  
Pediatrics & Communicable Diseases  
Humanitarian emergencies in low resource countries with poor infrastructures and high patient volumes; Doctors Without Borders in Central Africa; Ethiopia, Haiti, Ghana, Kenya

Daniel Clauw, MD  
Anesthesiology  
Community needs assessments and education concurrent with education of UM students; Kenya

Wayne Cornblath, MD  
Ophthalmology & Visual Sciences  
Promoting neuro-ophthalmology training/teaching on a global level to increase access and quality of care; Bahrain, Brazil, China, Vietnam

Thomas Crawford, MD  
Internal Medicine  
Evaluation of the concept of pacemaker reuse, its safety and efficacy, as well as the ethical and regulatory issues involved; Bolivia, Ghana, Kenya, Mexico, Pakistan, Philippines, Uganda, Vietnam

Diana Curran-Galejs, MD  
Obstetrics & Gynecology  
Post-graduate OBGYN medical knowledge and surgical skills education/development/curriculum design/implementation; Ethiopia

Sherry H Day, OD, FAAO  
Ophthalmology & Visual Sciences  
Development of training programs for physicians interested in learning about specialty contact lens fitting (for diseased or post-op corneas) and low vision rehabilitation (for the visually impaired); China, Taiwan, and other countries that would like to learn and provide these services for their people

Karen S DeLoss, OD, FAAO  
Ophthalmology & Visual Sciences  
Developing mutually beneficial research and educational collaborations in the areas of ocular surface disease as well as disorders of the cornea including keratoconus and corneal ectasia; Brazil

Hakan Demirci, MD  
Ophthalmology & Visual Sciences  
Clinical research in the area of ocular oncology including intraocular, conjunctival, orbital and eyelid tumors; Turkey
Raymond deVries, MD
Learning & Health Sciences/Center for Bioethics and Social Sciences in Medicine
Promotion of maternal and child health via the training of midwives and obstetricians and improvement of the ethical conduct of clinical trials in low resource countries; China, Ghana, the Netherlands

Courtney A Dewey, OD
Ophthalmology & Visual Sciences
Medical missions aimed at providing basic eye care and refractive correction to underserved areas of developing countries; Brazil, India, Peru, Romania

Raymond Douglas, MD, PhD
Ophthalmology & Visual Sciences
Collaborative clinical and research projects in the field of thyroid eye disease; Brazil, China, Denmark, Ghana, India, Italy, Japan

Kathleen Bronson Dussan, MD, RN
Internal Medicine
Medical education, refugee health and students’ attitudes and exposure to the underserved; medical reuse/recycling in promoting the recovery of unused medical supplies for the purpose of global aid, waste reduction, and cost-effectiveness; Colombia, Guatemala

Peter Frederick Ehrlich, MD, MSc
Surgery
Childhood cancer, primarily renal tumors in children and quality and outcomes, and pediatric trauma system development and improving care for injured children; India, Peru

Avraham Eisbruch, MD
Radiation Oncology
Reducing toxicities and improving quality of life of patients with head and neck cancer undergoing radiotherapy, using advanced technology; India

Carol Fuzeti Elias, PhD
Molecular & Integrative Physiology
Determining the mechanisms by which metabolic imbalance disrupts the reproductive function; Brazil, Argentina, Chile

Niels Cary Engleberg, MD, DTM&H
Internal Medicine
Facilitating the development of transportable, open-licensed learning materials for training of health care workers in under resourced environments; Ethiopia, Ghana

Gary J Faerber, MD, FACS
Urology
Collaborative outreach programs with urologists who have shown an interest in developing endoscopic capabilities to manage urinary stone disease; Ghana, Senegal, Nigeria, Mozambique, South Africa

Michael Fetters, MD
Family Medicine
Promotion of educational and research collaboration in family medicine and medical education; China, Japan, Ethiopia

Senait Fisseha, MD, JD
Obstetrics & Gynecology
Women’s health, strengthening undergraduate medical education, and supporting postgraduate training programs; Brazil, Ethiopia, Ghana

Patrice E Fort, PhD
Ophthalmology & Visual Sciences
Mechanisms of protection of the retina and their alteration in various neurodegenerative disorders such as diabetic retinopathy, age-related macular degeneration, retinal detachment and glaucoma; France, Germany

Sheeja Francis, MD
Internal Medicine
Integrative rheumatology, with focus on improving accessibility to rheumatologic care in Kerala, India; India

A Oveta Fuller, PhD
Microbiology & Immunology
Health equity and global health research to develop and rigorously document impacts of sustainable intervention models that foster practical implementation of biomedical science advances for community use to prevent or reduce burden of infectious and chronic diseases; South Africa, Zambia
Martha Funnell, MS, RN, CDE, FAADE
Learning & Health Sciences
NIH-funded randomized controlled trials demonstrating the superiority of a patient-centered/patient empowerment approach compared to usual diabetes care. This approach has earned a world-wide reputation as an evidence-based effective approach to diabetes care and education; US, China, Mexico, Slovenia, Taiwan, Malaysia, Egypt

Mohammad Ghaziuddin, MD
Psychiatry
Autism/Asperger syndrome, behavioral phenotypes, and mental retardation; India and Saudi Arabia

Robert Harris Gilman, MD, DMD
Surgery
Pediatric reconstructive plastic surgery throughout South America within a medical mission platform; Brazil, Colombia

Debbie S Gipson, MS, MD
Pediatrics & Communicable Diseases
Establishing a network to support a translational research program, nephrotic syndrome research registry and training opportunities; India, United Kingdom, Kenya

Bruno Giordani, PhD, MA
Psychiatry
Neurodevelopmental changes in cognition, behavior, and mobility associated with medical treatments and disease, including cerebral malaria and HIV/AIDS; driving distraction and enhancement of driving performance across cultural settings; Brazil, China, Costa Rica, DR Congo, Uganda

Katherine J Gold, MD MSW MS
Family Medicine
Maternal-child health, particularly in the perinatal period; stillbirth and infant death prevention as well as improving maternal mental health; Ghana and other African countries

Edward Goldman, MD, JD
Obstetrics & Gynecology
Working with the law faculty in Kumasi, Ghana to create a Masters program in reproductive justice; Ethiopia and Ghana

Glenn Edward Green, MD
Otolaryngology
Translational interventions in complex communications disorders affecting speech and hearing; China, Spain, Israel, Bangladesh

Jennifer J Griggs, MD, MPH
Internal Medicine
Volunteer Physician for Asylum Seekers’ Network of Physicians for Human Rights; addressing the problem of breast cancer in Haiti, one of the poorest countries in the world; Haiti, Brazil

Larry D Gruppen, PhD
Learning & Health Sciences
Promoting collaborations among medical educators around the world to develop innovative and effective interventions to address core health care education challenges; fostering research and scholarships, both through partnerships and faculty development; China, India

Deborah Gumucio, MPH, PhD
Cell & Developmental Biology
Intestinal development and homeostasis and implications for inflammatory bowel disease and intestinal failure; Brazil, Chile, United Kingdom, Spain, Turkey, Greece

Andrew J Haig, MD
Physical Medicine & Rehabilitation
Building medical rehabilitation and rehabilitation leadership around the world; teaching global health and disparities issues to students; Austria, Brunei, China, Ghana

Kelli Stidham Hall, PhD, MS
Obstetrics & Gynecology
Maternal and child global health, psychosocial determinants and consequences of teen and unintended pregnancy, as well as access and barriers to family planning service provision; Ghana

Gary Hammer, MD, PhD
Internal Medicine
Adrenal and other endocrinological cancers; Brazil, India
Global REACH Faculty Associates

Ted Hanss, MBA
Medical School Information Technology
Researching and facilitating technology-enabled collaboration, using qualitative methods to identify the socio-technical factors that contribute to successful global health collaborations between differently resourced institutions; Ghana, China, South Africa, Ethiopia

Michele Heisler, MD, MPA
Internal Medicine
Development and evaluation of interventions to improve patient chronic disease self-management and outcomes; longitudinal, population-based research to inform better targeting and implementation of primary care programs; Brazil, Ecuador

Joseph Holoshitz, MD
Internal Medicine
Development of a new generation of synthetic adjuvants that could be used to improve vaccination potency in long list of human disease, many of which are endemic; Brazil, Canada, China, Israel, and other countries in Africa, the former Soviet Union, South America, East Asia

Christopher Thomas Hood, MD
Ophthalmology & Visual Sciences
Medical missions and volunteerism; Haiti

Joel Howell, MD, PhD
Internal Medicine
Collaborative projects with colleagues in Brazil studying the comparative introduction and use of medical technology and the politics of international medical collaboration during wartime; Brazil

Amy Huang, MD, MHSA
Internal Medicine
Science of international collaboration and medical education; China, Japan, Taiwan, other countries within Southeast Asia

Robert Curtis Hyyp, MD
Internal Medicine
Providing medical outreach to the indigent, underserved population of the Peruvian Amazon River basin and educational opportunities to UMMS students and residents during M-4 elective rotations; Peru

Elizabeth Anne Jackson, MD, MPH
Internal Medicine
Women's cardiovascular health across the lifespan, the development of vascular risk factors and disease in relation to the menopausal transition, and health behaviors in women and the impact on family members; China, India, Vietnam

Timothy RB Johnson, MD
Obstetrics & Gynecology
Women's health projects, sustainable partnerships, and postgraduate training programs; Ghana

Shruti Jolly, MD
Radiation Oncology
Using integrative techniques (physical activity, nutritional interventions) to reduce morbidity of cancer treatment and enhance cancer survivorship; India

Chava Kahn, MD
Obstetrics & Gynecology
Women's reproductive health care in Sub-Saharan Africa, particularly surrounding maternal mortality and family planning; implementation of a cervical cancer screening program in rural Uganda, utilizing the see-and-treat approach; Ghana, Uganda

Joseph Kolars, MD
Internal Medicine
Assessment of teaching quality; efficacy of medical learning venues; educational outcomes; measurement of learner competency; educating trainees to improve patient care; Brazil, China, Ethiopia, Ghana, India, Nepal, Peru, Tanzania, Uganda, Vietnam, Zimbabwe

Matthias Kretzler, MD
Internal Medicine
Research networks for translational nephrology on five continents focusing on integration of comprehensive clinical data sets with large-scale genetic and genomic information; Brazil, China, Germany, India, EU networks

Chandan Kumar, PhD
Pathology
Research, training and educational collaborations in translational cancer genomics studies and allied areas in India and other countries in the subcontinent; India, Nepal, Myanmar
Global REACH Faculty Associates

Paul Lee, MD, JD  
Ophthalmology & Visual Sciences  
Glaucoma, cataract, and anterior segment disease; China, India

Helios Leung, PhD, OD, FAAO  
Ophthalmology & Visual Sciences  
Optometric education; China

Michael J Lipson, OD, FAAO  
Ophthalmology & Visual Sciences  
Stopping and/or slowing progression of myopia via alternative methods of vision correction/therapy; China

Anna Suk-Fong Lok, MD, FRCP  
Internal Medicine  
Prevention and treatment of viral hepatitis particularly in countries where hepatitis (B and C) are prevalent; prevention and early diagnosis of hepatocellular carcinoma; education of physicians and other health providers including community leaders on how to prevent and treat viral hepatitis; China

Ronald Frank Maio, DO  
Emergency Medicine  
Emergency care in under-resourced settings; treatment and prevention of traumatic injuries; Ghana, India

Dorene S Markel, MS, MHSA  
Learning & Health Sciences/The Brehm Center  
Exploring potential collaborations with China, studying (and preventing) the impact that the projected diabetes epidemic could have on both the US and China, focusing on the learning health system and health literacy effects on clinical research engagement in minority populations; China

Varsha Mehta, PharmD, MS (CRDSA), FCCP  
Pediatrics & Communicable Diseases  
Causes of and interventions for reducing neonatal and infant mortality especially in premature neonates in the underserved population globally; improving rates of infant immunizations; and disease prevention strategies that will improve neonatal, infant and child health in collaboration with other health care providers; India, China

Shahzad Mian, MD  
Ophthalmology & Visual Sciences  
International eye banking; developing a resource for surgeons and healthcare professionals working outside the US who are interested in obtaining transplantable corneal tissue for surgery, or who want to learn more about partnering with international eye bank development; China

Janis M Miller, PhD, APRN, FAAN  
School of Nursing/ObGYN  
Launching and creating sustainability of The International Center for Advanced Research and Training (ICART) in Panzi, Bukavu in the DR Congo; seeking solutions that come from research to reduce the suffering, particularly of women and children, from the decades of wars; Democratic Republic of Congo

Okeoma Mmeje, MD, MPH  
Obstetrics & Gynecology  
Evaluation and implementation of safer methods of conception for HIV-affected individuals and couples in low-resource environments, particularly in sub-Saharan Africa, as a means of HIV prevention; Ethiopia, Ghana, Kenya

Marcos Montagnini, MD, FACP  
Internal Medicine  
Developing partnerships that will focus on medical and interprofessional education in Geriatrics and Palliative Medicine, development of efficient models of care, clinical research, and mentorship to junior investigators; Brazil, Chile, China, India, Peru, Australia, United Kingdom, Canada, Portugal

Rajen Mody, MD, MS  
Pediatrics  
Empowering local champions to design and adopt clinical treatment protocols feasible for their settings and patient population; improving infrastructure for clinical research for other supportive care services; India, South Africa, Nepal

Cheryl A Moyer, PhD, MPH  
Learning & Health Sciences  
Maternal and neonatal health; social and cultural factors that influence facility-based delivery, stillbirth, early neonatal mortality; research capacity development; Ethiopia, Ghana, Uganda

Jeffrey S Moyer, MD, FACS  
Otolaryngology  
Capacity development in otolaryngology in Sub-Saharan Africa, particularly Ghana; Ghana
Patricia Mullan, PhD
Learning & Health Sciences
Enhancing the competency assessment systems for professional health education programs in developing countries; mentoring student projects related to health education in developing countries; China, Ghana, India, Republic of Ireland, South Korea

David C Musch, PhD, MPH
Ophthalmology & Visual Sciences
Supporting and advising on clinical and epidemiologic research on eye disease and teaching on clinical trial principles and methods; China, India

Christine C Nelson, MD, FACS
Ophthalmology & Visual Sciences
Exploring areas of collaborations in education and telemedicine in eye plastic and orbital surgery; teaching residents and local ophthalmologists surgical techniques; clinical research in congenital eye diseases; improving quality of life and surgical techniques; Brazil, China, Dominican Republic, Haiti, Kenya, Peru

Lisa Ann Newman, MD, MPH, FACS
Surgery
The study of breast cancer variation related to African ancestry; Ghana

Paula Anne Newman-Casey, MD
Ophthalmology & Visual Sciences
Decreasing rates of blindness through creating systems-based approaches to improve access to care; creating effective educational curricula for paramedical personnel; and studying patient decision making and health behavior change; Brazil, Ecuador, India, other Latin American/Spanish-speaking countries

Vladimir Ognenovski, MD
Internal Medicine
Help train rheumatologists in Macedonia, establish rheumatology clinics to improve patient access and quality of care, and promote student and faculty exchanges; Macedonia

Akinlolu Ojo, MD, PhD, MBA
Internal Medicine
Clinical and translational research infrastructure and capacity development in sub-Saharan Africa, genetics of kidney disease in people of African ancestry, comparative studies in African Americans, Afro-Brazilians, and sub-Saharan Africans; Brazil, Ethiopia, Ghana, India, Jamaica, Kenya

Kathleen Ludewig Omollo, MPH, MSI
Learning & Health Sciences
Strengthening the workforce for informatics and technology to support health, designs for Internet- and electricity-constrained environments, and tools and organizational models for enabling shared knowledge and continuous learning among distributed multi-disciplinary teams; Ethiopia, Ghana, Kenya, South Africa, Liberia

Amit Pandya, MD, RDMS, RVT, RDCS
Radiology
Use of portable radiation and ultrasound technology in low-resourced countries; India, Uganda, Brazil

Chintana Paramagul, MD
Radiology
Promoting the advancement of medical and scientific knowledge; maintaining the highest possible medical standards and ethics; conducting activities directed towards the sustenance and advancement of health care delivery and education in Thailand and the United States; and establishing and promoting cooperation with related organizations; Thailand

Pauline K Park, MD
Surgery
Trauma and ICU care delivery; India

Ruben Peredo, MD
Internal Medicine
Chronic diseases in developing countries; exploring prevailing rheumatic diseases and their differences in their prognoses compared to developed nations; link of environmental hazards of developing countries and inequity in health care access with a poorer outcome; Bolivia, Brazil, Ecuador, Mexico

Marc Peters-Golden, MD
Internal Medicine
Basic and translational research in innate immunity, inflammation, and fibrosis, particularly in the lung; collaborative research and mentoring international trainees and visiting scientists; Brazil, Canada, France, Germany, India, Japan, Korea, Russia

Mark Peterson, PhD, MS
Physical Medicine & Rehabilitation
Surveillance of secondary health conditions in pediatric neuromuscular disabilities throughout the lifespan, as well as the identification, evaluation, and refinement of behavioral interventions to reduce morbidity and sustain healthy life years in these populations; causes and consequences of age-related frailty and cardiometabolic disorders; Brazil, Ireland, Israel, China, Netherlands, Spain
Global REACH Faculty Associates

John Piette, PhD
Internal Medicine
Developing interventions using health information technology to improve self-management and outcomes for patients with diabetes and other common, high-risk diseases in low/middle income countries; Bolivia, Chile, Colombia, Ecuador, Honduras, Mexico, Nicaragua

Rodica Pop-Busui, MD, PhD
Internal Medicine
Mechanisms of chronic diabetic complications, particularly diabetic peripheral neuropathy and cardiovascular autonomic neuropathy and their role in the development of the high cardiovascular risk complicating diabetes; the role of oral health in diabetes complications; Brazil, China, Korea, Romania

Mark Prince, MD
Otolaryngology
Developing increased patient care and research capacity through medical student and postgraduate medical education programs; Ghana, Macedonia

Raphael Pristoop, MD
General Medicine
Clinical care for resource-poor hospitals; supervision and training of medical students/residents in patient care; and education of health workers; India, Israel, Uganda

Jeffrey Punch, MD
Surgery
Partnering with the St Paul Millenium Medical School in Addis Ababa, Ethiopia and the Ethiopian Health Ministry to establish a kidney transplant program in Ethiopia, and increasing involvement with the medical school partnership in Meru, Kenya; Ethiopia, Kenya, Southeast Asia

Malini Raghavan, PhD
Microbiology & Immunology
Understanding how polymorphisms in immune response (major histocompatibility complex class I) genes influence immunity to infections and vaccine outcomes, particularly as relating to HIV infections; India

Krishnan Raghavendran, MD
Surgery
Organization and delivery of trauma services and critical care to the developing world; India, Southeast Asia

Venkatakrishna Rajjee, MBBS
Neurosurgery & Neurology
Care of patients with Traumatic Brain Injury in the developing world, where there are very specific challenges and issues; India, Ghana, China

Nithya Ramnath, MBBS
Heme/Oncology
Lung cancer outcomes and attitudes to breast cancer screening in Southern India; India

Gurpreet Kaur Rana, MLIS
Taubman Health Sciences Library
Providing leadership in identifying global information resources; cultivating partnerships with health sciences community; collaborating with faculty to lessen health disparities around the world using the power of information resources; Ghana, India, and other developing countries

Sheila AM Rauch, PhD, ABPP
Psychiatry
Dissemination of evidence based practice with an emphasis on international dissemination of effective treatment for PTSD following disasters; Japan and other disaster impacted areas

Sanjay Saint, MD, MPH
Internal Medicine
Prevention of healthcare-associated infections as well as hand hygiene: projects aimed at assessing and increasing hand hygiene compliance among healthcare workers and preventing common healthcare-associated infections; Italy, Japan, Thailand, Australia, New Zealand, Switzerland, other European countries

Sabina Siddiqui, MD
Surgery
Assisting with acute surgical care needs, providing training to local health care providers, assessing resource utilization and process innovation; Egypt, Kenya, Nicaragua, Peru

Sivaraj Sivaramakrishnan, PhD
Cell & Developmental Biology
Development of new technologies for drug development and discovery and strengthening basic science research in developing countries; India, Kenya, Israel
Global REACH Faculty Associates

Terry Jay Smith, MD
Ophthalmology & Visual Sciences
Extending endocrine care and patient education to underdeveloped countries; Brunei, Croatia, Ghana, Vietnam

H Kaz Soong, MD, MS
Ophthalmology & Visual Sciences
International ophthalmology; Brazil, Bulgaria, China, Haiti, India, Japan, Taiwan

Katherine Spindler, PhD
Microbiology & Immunology
Viral pathogenesis of viruses that cause encephalitis, using mouse models and genetic approaches; Brazil

Joshua D Stein, MD, MS
Ophthalmology & Visual Sciences
Utilization of eye care services and outcomes of eye care in developing nations and how they compare with the US, and alternative health care delivery models for eye care in other countries; India

Alexandra Minna Stern, PhD
Obstetrics & Gynecology
History of the health sciences with a focus on reproduction, genetics, genomics, and public health; interdisciplinary approaches to global, racial, and gender health disparities in Latin America; Brazil, Argentina, Mexico

Stephen Strobbe, PhD, RN, PMHSNS-BC, CARN-AP
School of Nursing/Psychiatry
Psychiatric and addictions nursing; prevention, treatment, and recovery from substance use disorders and related disorders; mental health and illness across the lifespan; spirituality; Brazil, Poland, Myanmar

Elizabeth Studley, CRNA, MS
Mott Children’s Hospital
Leading a health care team to Migori, Kenya with KenyaRelief.Org; treating up to 600 patients and performing 60-80 surgeries, all in three days of clinic. There are two million people in Southwest Kenya without medical care and we will break ground on the first phase of a 300-bed mission medical center in 2015; Kenya

Alan Sugar, MD
Ophthalmology & Visual Sciences
Corneal transplantation and eye banking; Guatemala, Trinidad

Denise Tate, PhD
Physical Medicine & Rehabilitation
Spinal cord injury clinical management, aging with disability, women with disability, quality of life outcomes, environmental factors in health and disability, health care policy and disparities; Brazil, Germany, Taiwan, United Kingdom, other Latin American countries such as Argentina and Chile

Trilokraj Tejasvi, MD, MBBS
Dermatology
Providing health services and medical education in needly and impoverished areas through teledermatology, providing medical education about tropical dermatology, and learning about the genetic basis of common dermatological diseases in different ethnicities; Brazil, Ghana, Guatemala, India

Jonathan D Trobe, MD
Ophthalmology & Visual Sciences
Problem-based learning courses in neuro-ophthalmology; Brazil, China, India, Taiwan

Kalpesh Unadkat, MS, MBA, CISSP
Medical Center Information Technology (IT)
Enabling use of IT to facilitate collection, consolidation, and analysis of health information in a way that can create efficiencies in the area of clinical and research management, organization, and decision making; India, Ghana, Ethiopia

Manuel Valdivieso, MD, MS, CPE
Internal Medicine
Infection-related cancers including gastric, cervical and hepatic cancers; reducing the burden of H pylori infection; Brazil, Colombia, Chile, Mexico, Peru

Mark A Veich
UMHS Office of Development
Securing external funding to support our education and research programs overseas; China, India, Singapore, South Korea
Global REACH Faculty Associates

Akbar K Wajee, MD, MSc
Internal Medicine
Establishing links between academic organizations, hospitals, and universities between developed countries and developing countries; address disparities in surgical and medical healthcare; Kenya

Brent Ward, MD, DDS
Surgery
Building collaborative research in the areas of head and neck cancer with a specific focus on the oral cavity and microvascular reconstruction; India, China, Argentina

Brent Williams, MD, MPH
Internal Medicine
Developing educational programs in domestic and international health disparities; United States and multiple countries where medical students spend time

John A Williams, MD, PhD
Molecular & Integrative Physiology
Basic science medical education and building faculty capacity for teaching basic medical sciences in Africa; Ghana, Ethiopia, Kenya, Tanzania, Botswana

Maria A Woodward, MD
Ophthalmology & Visual Sciences
Telemedicine for eye diseases; Brazil, India

To become a Faculty Associate or Affiliate or to receive global health monthly news updates, email globalreach@umich.edu
Global REACH Faculty Affiliates

Patricia Abbott, PhD, RN
School of Nursing
Use of information and communication technology (ICT) in medically underserved areas to improve health of people and communities, including using ICT for education/workforce scale-up, innovative use of mHealth approaches to engage patients/families in health improvement actions, and organization advocacy for eHealth efforts; Ethiopia, Haiti, Brazil, Ghana

Debra Barton, RN, PhD, AOCN, FAAN
School of Nursing
Promoting self-management and health in chronic illness, specifically cancer; helping prepare post doctoral fellows from Thailand who have oncology as an area of interest; Brazil

Sue Anne Bell, PhD, FNP-BC
School of Nursing
Inter- and intra-personal responses to disasters in a global health setting, with a particular focus on vulnerable populations, in order to inform disaster preparedness and response interventions; health systems strengthening activities, including building nursing capacity in Ethiopia and Ghana; Ethiopia, Ghana, Australia

Sarah Burgard, PhD
School of Literature, Science, & the Arts
Comparative research on the social determinants of health and health disparities, primarily socioeconomic status, gender, and ethnicity; Brazil, South Africa, China

Philippa Clarke, PhD
Institute for Social Research
Investigation of neighborhood characteristics associated with social disparities in health specifically the role of neighborhood-built environments in facilitating physical activity and other health behaviors among those at greatest risk for poor health; Brazil

Paul Clyde, PhD
Ross School of Business, William Davidson Institute
Health care delivery institutions in low resource settings with a focus on financially self sustaining business models. More recently I have started getting involved in some supply chain and market dynamics work for pharmaceutical products; India, Ethiopia, Uganda, Ukraine, Rwanda, DRC

Carlos Gonzalez-Cabezas, DDS, MSD, PhD
School of Dentistry
Establishment of sustainable preventive programs for oral diseases in partnership with local communities. Provide opportunities for dental students to participate in responsible global health activities; Brazil, Ghana, Guatemala, Jamaica, Kenya

Aubree Gordon, PhD
School of Public Health
Epidemiologic features and transmission of influenza and dengue in Nicaragua; Nicaragua

Sioban D Harlow, PhD
School of Public Health
Reproductive health, occupational and environmental impacts on reproduction international labor standards, and human rights; Mexico, Ecuador

Andrew Jones, PhD
School of Public Health
Impacts of food systems on household food insecurity and maternal and child nutrition in low- and middle-income countries (LMICs); double burden of undernutrition and obesity, especially as they manifest within individual women of reproductive age and preschool-aged children; India, Bolivia, Peru, Zimbabwe, Burkina Faso, South Africa, Malawi

Jody R Lori, PhD, CNM
School of Nursing
Advancing the science of sustainable, evidence-based care for maternal and newborn health in low-resource countrys, with a focus in sub-Saharan Africa; Ghana, Liberia, Zambia, Ethiopia

Michelle Munro, PhD, CNM, FNP-BC
School of Nursing
Improving health outcomes of women and children by increasing reproductive health choices and impacting reproductive health policy changes for vulnerable women of childbearing age in global settings; specifically, utilizing mHealth platforms to engage adolescents in learning about and controlling their reproductive health; Ghana, Ethiopia, Liberia

Nils G Walter, PhD
Chemistry
Study of RNA biology in life and disease using state-of-the-art single molecule fluorescence microscopes; Brazil, India, Mexico
Select Highlights of Global REACH Community Members (not included in other report sections)

- Several UMMS faculty are partners on a new University of Michigan Third Century Initiative grant funded by the offices of the president and provost to develop innovative, multi-disciplinary teaching and scholarship approaches. **Drs. David Burke (PI), Joseph Myers, Paula Anne Newman-Casey, Akinlolu Ojo, and Maria Woodward** of the Medical School, along with **Dr. Mark Burns** from the College of Engineering, were awarded $1.4M for their project “Deep Monitoring” Chronic Disease in Underserved and Remote Populations. The team is exploring the challenges of deploying, using and assessing sensor technologies for monitoring chronic disease in millions of individual patients who are distributed over wide distances. The project’s initial results examining chronic adult diabetes are helping inform subsequent technology and implementation decisions, in a broader range of chronic diseases, and also leading to collaboration and partnerships with foundations, health systems and students globally. The Deep Monitoring Project intends to build a foundation in Phase 2 that will engage and motivate students, staff, and faculty – and strengthen the University of Michigan – beyond its proposed 4-year timeframe. It includes a balance of academic research novelty and real-world implementation into the UM Health System and the developing world.

- Internal Medicine faculty **Drs. Sanjay Saint and Vineet Chopra** helped establish and lead the University of Michigan site for the South Asian Healthcare Leadership Forum Summer Scholars Program, which allows undergraduate students with a demonstrated passion for improving health care through business, research, policy, or practice to take part in unique internships within healthcare delivery, policy, and research. Their first student scholar completed her program during Summer 2015.

- **Ronald Maio, DO, MS, FACEP** was spotlighted in the October 2014 Newsletter of the NPGH Fogarty Global Health Fellows for his global team approach to injury prevention in developing countries. Dr. Maio founded and directed the UM Injury Research Center and is currently Professor Emeritus in Emergency Medicine.

- **Dr. Senait Fisseha**, Associate Professor of Obstetrics and Gynecology received the 2014 Dean’s Medical School Community Service Award for her contributions to the global community.

- **Robert H. Gilman, MD, DMD**, Assistant Clinical Professor of Plastic Surgery completed his 17th mission to Cartagena, Colombia in February 2015, taking with him a plastic surgery team of 20 medical professionals. Together they performed nearly 60 pediatric reconstructive plastic surgical procedures.

*Dr. Gilman (left) is shown with a team member as they perform surgery in Cartagena, Colombia*
Global REACH Team

Joseph C Kolars, MD, Senior Associate Dean for Education and Global Initiatives

Kevin C Chung, MD, MS Global REACH Assoc Director

Michele Heisler, MD, MPA Global REACH Assoc Director

Cheryl A Moyer, PhD, MPH Global REACH Assoc Director

Tania Piotrowski, MHSA Global REACH Administrative Director

Brent Williams, MD Director, Global Health & Disparities Path of Excellence

Amy Huang, MD, MHSA Director for China Programs

Robyn Hodges Sr. Administrative Specialist

Carrie Ashton Global Visitors Coordinator

Mira Gupta Sr. Research Specialist

Elizabeth Kaselitz, MSW Clinical Res Proj Manager

Yi Mao, MPH Program Coordinator

Kate Restrick Communications Coordinator

Sarah Rominski, PhD, MPH Sr. Research Associate

Elisa Duarte Teixeira, PhD Program Manager, Brazil Platform
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Michael J. Behm
Grand Blanc

Mark J. Bernstein
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Laurence B. Deitch
Bloomfield Hills

Shauna Ryder Diggs
Grosse Pointe

Denise Ilitch
Bingham Farms

Andrea Fischer Newman
Ann Arbor

Andrew C. Richner
Grosse Pointe Park

Katherine E. White
Ann Arbor

Mark S. Schlissel (ex officio)

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Cover Photo:

Devika Bagchi was one of two University of Michigan medical students who conducted needs assessments and mental health screenings of children and elderly residents living at the Grace Care Center in Sri Lanka. The photo is shot from the top of Sigiriya Rock, a few hours from the city of Trinco.