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Neglected Global Diseases Initiative



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THE UNIVERSITY OF BRITISH COLUMBIA

Newsletter June 2014

NGDI News

More WIPO Re:Search Agreements in place for UBC
Promising Discovery in the Fight Against Antimicrobial-Resistant Bacteria
Stars in Global Health Awardees from Grand Challenges Canada
Richard Lester Provides Commentary for Polio Crisis on CTV News
NGDI Advisory Board Member Named Interim Director of Peter Wall Institute
NGDI Student Global Health Journal First Publication Expected in September
Mentorship needed: Looking for laboratory help this summer?

Funding Opportunities

CIHR Funding Opportunities
Other Funding Opportunities
UBC College of Health Disciplines Competitions
Fulbright Canada Scholarships

Reports of Interest

NGDI Member Annual Reports
Antimicrobial Resistance: Global Report on Surveillance 2014
World Health Statistics 2014

**The next NGDI Newsletter will be in September.
We hope you have an enjoyable summer!**



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More WIPO Re:Search Agreements in place for UBC

NGDI Member, Horacio Bach, Adjunct Professor, Division of Infectious Diseases, University of British Columbia, will utilize its phage display technologies to develop new antibodies against Chagas disease host biomarkers identified by Momar Ndao, McGill University. Once developed, the antibody will be incorporated into the development of a diagnostic.

Also Momar Ndao, Assistant Professor, Department of Medicine, McGill University, will provide Leonard Foster, Director, Centre for High-Throughput Biology, University of British Columbia (UBC), with frozen extracts of *T. cruzi*-infected and *Cryptosporidium*-infected cells. UBC will use these extracts to identify novel vaccine antigens for Chagas disease and cryptosporidiosis.

Promising Discovery in the Fight Against Antibiotic-Resistant Bacteria

UBC's Bob Hancock and his team of researchers have discovered a peptide that could help destroy biofilms, which are responsible for two-thirds of human infections.

Researchers at the University of British Columbia have identified a small molecule that prevents bacteria from forming into biofilms, a frequent cause of infections. The anti-biofilm peptide works on a range of bacteria including many that cannot be treated by antibiotics.

"Currently there is a severe problem with antibiotic-resistant organisms," says Bob Hancock, a professor in UBC's Dept. of Microbiology and Immunology and lead author of the study published today in [PLOS Pathogens](#). "Our entire arsenal of antibiotics is gradually losing effectiveness."

Many bacteria that grow on skin, lung, heart and other human tissue surfaces form biofilms, highly structured communities of bacteria that are responsible for two-thirds of all human infections. There are currently no



Photo: Martin Dee

approved treatments for biofilm infections and bacteria in biofilms are considerably more resistant to standard antibiotics.

Hancock and his colleagues found that the peptide known as 1018—consisting of just 12 amino acids, the building blocks of protein—destroyed biofilms and prevented them from forming.

"Antibiotics are the most successful medicine on the planet. The lack of effective antibiotics would lead to profound difficulties with major surgeries, some chemotherapy treatments, transplants, and even minor injuries," says Hancock. "Our strategy represents a significant advance in the search for new agents that specifically target bacterial biofilms."

Stars in Global Health Awardees from Grand Challenges Canada



Thiamin-fortified fish sauce as a means of combating infantile beriberi in rural Cambodia

Tim Green, Faculty of Land and Food Systems
Country of Implementation: Cambodia

Low levels of the vitamin thiamin (B1) in the diet of breastfeeding mothers in Southeast Asia results in widespread beriberi disease in their infants, causing heart failure and thousands of child deaths. In Cambodia alone, the problem kills about 700 children per year.

The project will introduce fortified fish sauce to mothers' diets, a simple, cost-effective and sustainable way to raise maternal blood and breast milk thiamin levels, helping to lower the rate of infantile beriberi.

Video: <http://bit.ly/1ni7wVj>

The Post Discharge Survival Project

Matthew Wiens, School of Population and Public Health
Country of implementation: Uganda

Some five to 10 per cent of African children with a serious infection die in hospital. Alarming, an even higher percentage of children die in the weeks after their discharge. Doctors and parents are often unaware of this period of high vulnerability and are poorly equipped to identify or handle recurrent illness. A mobile phone application developed by this project for hospital use will help to identify at-risk children who need referral to a community health worker, while parents will receive a discharge kit to help guide care for their recovering child.

Video: <http://bit.ly/1jThV5T>,

Pictures: <http://bit.ly/1mI8vxI>



Funding Award to NGDI Member Dr. Kishor Wasan for \$236,906

Funding for three years to investigate a Novel Treatment for Leber Congenital Amaurosis has been approved by the Foundation Fighting Blindness. Principal Investigators are: Drs. Cheryl Gregory-Evans, Kevin Gregory-Evans, and Kishor M. Wasan

This project follows up on the [discovery of a cure](#) for a rare birth defect of the eye called Aniridia, late last year. This project will test the new compound against additional eye defects.

NGDI Advisory Board Member Named Interim Director of Peter Wall Institute

[Dr. Gallini](#) is a professor in UBC's Vancouver School of Economics (VSE). Prior to coming to VSE, she was a faculty member in the Department of Economics at the University of Toronto (1979-2002, chair of the Department 1995-2000) and Dean of Arts at the University of British Columbia (2002-2010). Her research focuses on the economics of intellectual property, competition policy, strategic alliances, licensing, and patent policy. She has served on editorial boards of the American Economic Review and the International Journal of Industrial Organization, and is currently a member of SSHRC Council and the Mitacs



Research Council. Dr. Gallini has also worked with the Competition Bureau and Industry Canada on projects related to Canada's patent and competition policies.

Her appointment is for a one year term, effective July 1, 2014. A search for a permanent director will be started in the fall. The NGDI congratulates Dr. Gallini in her new role at Peter Wall Institute.



NGDI Student Global Health Journal First Publication expected in September

Editors Kimberly Girling, Raquel Baldwinson and Jennifer Choi will set to work in August to put the finishing touches on the first NGDI Student GH Journal. The process of matching students with NGDI mentors has proven successful and there are six articles in process for the first publication. Subject vary considerably for instance HIV therapies and adherence, ethics in volunteering and student placements, disease coping, and the effects of war on disease.

Thank you to our inaugural NGDI member mentors: Drs. Shafik Dharamsi, Vinay Kamat, Rosemin Kassam, Charles Larson, Santiago Ramon-Garcia, and Kishor Wasan.



Richard Lester Provides Commentary for Polio Crisis on CTV News

NGDI Director, Dr. Richard Lester discussed the WHO upgrading of the polio crisis and what it means for eradication efforts.

The clip is from May 5, 2014 evening news and may be viewed [here](#).

Biomedical Engineering Students Recognized for Work on New Drill Cover for use in Orthopaedic Trauma Surgeries

New NGDI member Marianne Black recently received the prestigious Paul Geyer Graduate Award in Biomedical Engineering for 2013-14. This award recognizes entrepreneurial achievements by graduate students in Biomedical Engineering at UBC and is awarded to students who have demonstrated both strong leadership and a high standard of scholarly achievement.



Marianne is a MAsc student in Biomedical Engineering supervised by Dr. David Wilson at the Centre for Hip Health and Mobility. She is working on a biomedical engineering project to address the lack of orthopaedic surgical drills in developing countries. In a team of 6 (including current UBC students and alumni) and with the support of UBC's Engineers in Scrubs program and Orthopaedics Department, a prototype has been developed that allows the sterile use of affordable hardware drills for surgical procedures.



BME MEng student, Michael Cancilla, has received the prestigious B.C. Medtech Award in Biomedical Engineering for 2013-14. This award recognizes entrepreneurial achievements by graduate students in Biomedical Engineering at UBC and is awarded to students who have demonstrated both strong leadership and a high standard of scholarly achievement.

Mike and a team of UBC Biomedical Engineers worked with surgeons at both Vancouver General Hospital and Mulago Hospital in Uganda to develop a sterile drill cover, which allows the surgeons in Mulago to safely use a regular power drill (\$150) in the place of a high quality surgical power drill (\$30,000) during orthopaedic trauma surgeries. Using sustainable business practices, they want to put these drill covers in the hands of more surgeons in developing countries who need them, ensuring the proper training and ownership accompanies the product so it can be used effectively. More info on the project at www.drillcover.com.

Mentorship Needed: Looking for laboratory help this summer?

NGDI has received a request from a Crofton House Grade 12 student to volunteer in a drug development and discovery laboratory this summer. The student will have taken AP Chemistry, AP Biology, and Physics 12 and is designing their own experiment testing the effectiveness of digestive enzyme pills.

Funding Opportunities

CIHR Funding Opportunities

The following is a list of funding opportunities which CIHR and its partners posted between April 16 and May 20, 2014.

- Fellowship: Banting Postdoctoral Fellowships Program (2014-2015)
- Operating Grant: Biomarkers in Nutrition and Health (BioNH)
- Operating Grant: Transitional Operating Grant: (2014-2015)
- Other: Best Brains Exchange Travel Awards (2014-2015)
- Other: Canada Graduate Scholarships – Michael Smith Foreign Study Supplement (2014-2015)
- Other: Institute Community Support Grants and Awards (2014-2015)

To view these opportunities, please use the [CIHR Funding Opportunity Database](#).



Other Funding Opportunities

Burroughs Wellcome Fund: [Investigators in the Pathogenesis of Infectious Disease](#)

Deadline: November 3, 2014.

Fogarty International Center: [International Research Training and Planning Grants](#)

Deadlines vary; between July 24-29 2014.

Indigenous Peoples' Health Research Centre: [Post-doctoral Fellowship in Aboriginal Health](#)

Deadline: open until filled

Special Programme for Research and Training in Tropical Diseases (TDR): [Improving the careers of women research scientists in infectious diseases of poverty](#)

Deadline: September 30, 2014.

Wellcome Trust: [Master's Fellowships in Public Health and Tropical Medicine](#)

Deadline: August 15, 2014.

Wellcome Trust: [Senior Fellowships in Public Health and Tropical Medicine](#)

Deadline: preliminary application: Sept 19, 2014;
main application: November 14, 2014

Fulbright Canada Scholarships

[Fulbright Canada competition](#) for Canadian scholars is now open, and closes November 15, 2014. The competition is for awards in numerous disciplines are taken up September 2015 and/or January 2016.

Eligibility: Candidates must be Canadian citizens, hold a Ph.D. or equivalent professional/terminal degree as appropriate. Candidates outside academia (e.g., professionals, artists) with recognized professional standing and substantial professional accomplishments are also eligible, and be proficient in English.

[Visiting Research Chairs Program](#): US\$25,000 for one 4 month semester. These are targeted opportunities at select universities/institutions designed to host exceptional scholars and experienced professionals who conduct research in a specific area.

[Traditional \(All Disciplines\) Award](#): US\$12,500 for one 4 months semester. These awards are field open and can be taken up at any university, think tank, or government agency in the United States.

Inquiries: Brad Hector, Program Officer (Scholars), bhector@fulbright.ca

UBC College of Health Disciplines Competitions

The College of Health Disciplines is pleased to announce this year's awards competition to acknowledge outstanding students, educators and health professionals that exemplify interprofessional health, education and practice. Please assist the College by bringing these scholarships and awards to the attention of your students, colleagues and community partners in health.

Student Scholarships - 2014 Call for Applications

Open to current UBC students in any health or human services degree program who will be entering their final year of study in September 2014.

- John H. V. Gilbert Interprofessional Scholarship
- Professor Jessie Gordon MacCarthy Memorial Scholarship

Application deadline: July 4, 2014.

Interprofessional Awards - 2014 Call for Nominations
Open to teams and/or individuals who exemplify excellence in interprofessional collaboration in health care. Nominees may be health professionals or educators, and may be from or outside UBC.

- John F. McCreary Prize for Interprofessional Teamwork
- Award for Excellence in Interprofessional Education Teaching
- Award for Outstanding Leadership in Advancing Interprofessional Professional Development
- Practice Education Team Award

Nomination deadline: July 4, 2014 for McCreary Prize; July 18, 2014 for interprofessional awards.

Full details and application/nomination forms are available on the College's website at

<http://www.chd.ubc.ca/about/awards-and-scholarships/>.

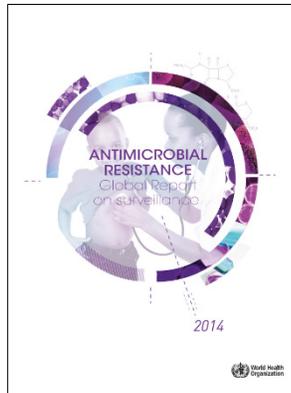
Reports of Interest

NGDI Member Annual Reports

[PART](#): Pediatric Anesthesia Research Team 2013

[PRE-EMPT](#): Pre-Eclampsia and Eclampsia, Monitoring, Prevention and Treatment 2012-2013

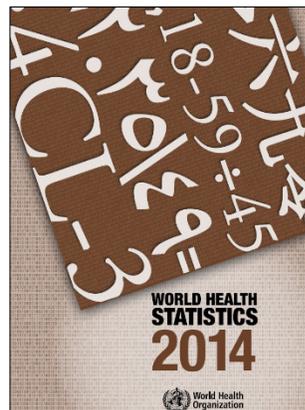
Antimicrobial Resistance: Global Report on Surveillance 2014



[Foreword] Antimicrobial resistance (AMR) within a wide range of infectious agents is a growing public health threat of broad concern to countries and multiple sectors. Increasingly, governments around the world are beginning to pay attention to a problem so serious that it threatens the achievements of modern medicine. A post-antibiotic era—in which common infections and minor injuries can kill—far from being an apocalyptic fantasy, is instead a very real possibility for the 21st century.

Determining the scope of the problem is essential for formulating and monitoring an effective response to AMR. This WHO report, produced in collaboration with Member States and other partners, provides as accurate a picture as is presently possible of the magnitude of AMR and the current state of surveillance globally. [<read more>](#)

World Health Statistics 2014



[From Introduction] The World Health Statistics series is WHO's annual compilation of health-related data for its 194 Member States, and includes a summary of the progress made towards achieving the health-related Millennium Development Goals (MDGs) and associated targets. This year, it also includes highlight summaries on the ongoing commitment to end preventable maternal deaths; on the need to act now to combat rising levels of childhood obesity; on recent trends in both life expectancy and premature deaths; and on the crucial role of civil registration and vital statistics systems in national and global advancement.

Indicators have been included on the basis of their relevance to global public health; the availability and quality of the data; and the reliability and comparability of the resulting estimates. Taken together, these indicators provide a comprehensive summary of the current status of

national health and health systems in the following nine areas:

- life expectancy and mortality
- selected infectious diseases
- risk factors
- health expenditure
- demographic and socioeconomic statistics.
- cause-specific mortality and morbidity
- health service coverage
- health systems
- health inequities

[<read more>](#)