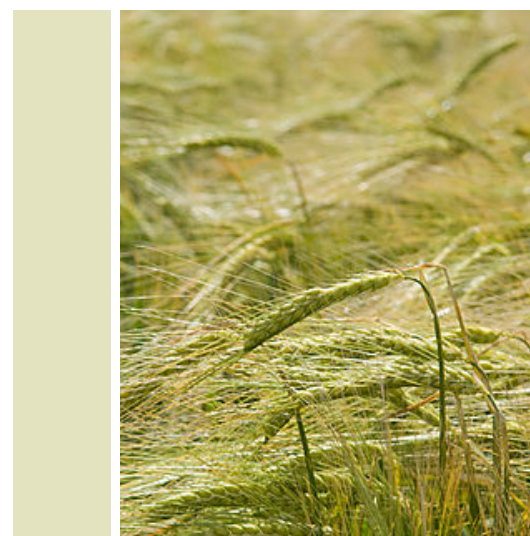


The Neglected Global Diseases Initiative

2011 Annual Report



a place of mind

THE UNIVERSITY OF BRITISH COLUMBIA

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A Message from the Director



2011 has been a ground breaking year for the Neglected Global Diseases Initiative at UBC. Starting with our presentations from our first three Distinguished Lectureship awardees Dr. Michael Hayden, Dr. Julio Montaner and Mr. Stephen Lewis to the 2.8 million of funding from CIDA for important work in Bangladesh the NGDI is beginning to make it's presence beyond the confines of UBC to the global health community.

In a short time the initiative has helped educate the UBC community about neglected global diseases; highlighted the outstanding work of our colleagues and facilitated collaborations among scientist scholars from different disciplines across the campus. To date, NGDI-associated researchers have received more than \$16 million in funding for projects aimed at improving health outcomes for the world's poorest people.

It has been a wonderful year and we thank our membership for their enthusiasm and support! We look forward to a bright future in 2012.

A handwritten signature in black ink, appearing to read 'K. Wasan'.

Dr. Kishor M. Wasan
Professor and Associate Dean of Research and Graduate Studies
Faculty of Pharmaceutical Sciences;
Distinguished University Scholar;
Director, Neglected Global Diseases Initiative

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Neglected Global Diseases Initiative



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Advisory Board Members

NGDI-UBC | *Advisory Board*

The NGDI-UBC Advisory Board is made up of a diverse group of UBC faculty, staff and students. The Board meets monthly to guide the decisions of the NGDI and has played an integral part of the program's growth.

The current Board members are:

Mr. Allan Berezny

Assistant Dean Development, Faculty of Science

Ms. Jennifer Choi

President, Student Biotechnology Network

Ms. Kimberly Girling

Student Representative, Universities Allied for Essential Medicines, UBC Chapter

Dr. Robert E.W. Hancock

Professor, Department of Microbiology & Immunology, Faculty of Science; Director, Centre for Microbial Diseases and Immunity Research

Dr. Elizabeth Hancock

Retired

Ms. Janis Horne

Director of Development, Faculty of Pharmaceutical Sciences

Mr. Terry Kellam

Director, Office of the Vice President Research and International

Dr. Charles Larson

Professor, Department of Pediatrics, Faculty of Medicine; Director, Centre for International Child Health

Mr. Angus Livingstone

Managing Director, University-Industry Liaison Office

Dr. Jennifer Love

Professor, Department of Chemistry, Faculty of Science

Dr. Emily Marden

Senior Research Fellow, ISIS—Sauder School of Business

Dr. Jerry Spiegel

Professor, School of Population and Public Health and Liu Institute for Global Issues

Dr. Kaley Wilson

Project Development Scientist, Centre for Drug Research and Development





Program Review

*T*he NGDI-UBC is a pan-university organization, founded in 2009, that provides a voice for researchers working to develop solutions to conditions caused by neglected tropical diseases and poverty. The program supports our members by facilitating multi-disciplinary collaboration, providing partnership opportunities, and raising awareness for funding. We support students by mentoring student groups, developing graduate level education and providing leadership in knowledge exchange to develop the next generation of researchers.

You may be familiar with some conditions caused by neglected tropical diseases and poverty – leprosy, diarrhea, and guinea worm – however, there are many others that ruin the lives of millions of people by causing chronic disability, social stigmas and premature death. Treatments exist for most of these conditions but are not accessible or affordable for those that need them. Children are particularly vulnerable.

The University of British Columbia is the first university in Canada to adopt Global Access Principles when licensing discoveries through the University-Industry Liaison Office. These principles help to ensure that, whenever appropriate, populations in developing countries have access to our research innovations, at an affordable cost, through negotiated global access terms.

Our researchers have tremendous potential to make an impact not only through the development of new vaccines and new drugs for diseases such as chagas, visceral leishmaniasis and tuberculosis; they also investigate the best methods of controlling the insects that carry disease, the use of mobile technology to increase health worker capacity, the development of policy, and an understanding of how unlicensed and licensed street drug vendors affect drug access. This dual focus on development and delivery is what makes the Neglected Global Diseases Initiative at the University of British Columbia different.

The initiative is governed by a diverse group working in science, pharmaceutical sciences, microbiology and immunology, chemistry, medicine, population and public health, business, the University-Industry Liaison Office and the office of the Vice President Research & International. We value input and involvement from student organizations and the Advisory Board has representatives from the Universities Allied for Essential Medicines and the Science Biotechnology Network.

We have a strong and growing network of over 250 faculty, staff and students. With over 80 active members, we have projects submitted from 30 principal investigators, and several post-docs or graduate students.

The NGDI is guided by the vision of the initial



meetings of faculty, staff and students that took place in very early 2010. On the next few pages we report on the strategic priorities as outlined in these meetings.

Creating a knowledge base for neglected global diseases at UBC

This year the program introduced a quarterly Distinguished Lectureship Seminar Series to provide the UBC community with free lectures from very prominent members of UBC or Canada who have a track record of work involving diseases of the poor. In January Dr. Michael Hayden, Executive Director of the Centre for Molecular Medicine and Therapeutics put aside his world-class genomics research to inspire our audience with the story of building a youth-friendly recreation, counselling and Learning Centre to benefit a community living with HIV/AIDS in Cape Town, South Africa. He also discussed his Ripples of Hope Trainee Award in Global Health and Rare Diseases.

In May Dr. Julio Montaner, Director, The British Columbia Centre of Excellence for HIV/AIDS brought his ground-breaking work in highly active anti-retroviral therapy to campus. Dr. Montaner had a banner year as the President of the Interna-

tional Aids Society in 2010 and was recently justified in the international community for his struggle to bring Treatment as Prevention to the forefront of the battle against AIDS.

Mr. Stephen Lewis, Director and Co-Founder of AIDS-Free World spoke to the UBC community in October on the topic of neglected global diseases. Mr. Lewis reminded us that these diseases are firmly rooted in poverty and will require continued commitment by the international community in funding the various partnership organizations designated to find cures and vaccines. He also mentioned the dire need for anti-retroviral medications to come in paediatric formulations to treat children under 3.

We closed the year with Dr. Stuart MacLeod in December who continued on the subject of paediatric medicines and research on children. The International Alliance for Better Medicines for Children Program recognizes that paediatric formulations are a priority of global proportion as children under the age of 5 are vastly over-represented in neglected diseases.

The NGDI will continue the series into the new year with Dr. Keith Martin on February 24 and Dr. Brett Finlay in April.

Other free lectures sponsored by the NGDI included Dr. Francois Jean, Director of the Facility for Infectious Diseases and Epidemic Research and Dr. Laurence Meadows of Mitacs, Inc. Both information sessions were promoted for NGDI faculty, staff and students.

The NGDI-UBC with one of our student partners the Universities Allied for Essential Medicines co-sponsored an event for Celebrate Research Week,





2011 called *Creating Change, Creating Impact*.

This event was well attended and included talks from Dr. Lindsay Eltis—*Tuberculosis: The modern face of an ancient scourge*, Dr. Rebecca Goulding—*Open innovation and neglected diseases*, Mr. Angus Livingstone—*Global Access Principles: dream versus reality*, and Dr. Peter von Dadelszen—*Reducing maternal mortality in lower- middle- income countries*.

The NGDI was also involved in a talk with future UBC students when Dr. Kishor Wasan and Dr. Richard Lester gave talks about their work to the 2011 cohort of Shad Valley students. The enthusiasm from the students was high and hopefully had a positive impact in encouraging them to pursue health sciences in the future.

Training the next generation of neglected disease researchers is an important aspect of the program. While there are plans for the development of a graduate certificate program for in neglected diseases, the funding requirements have not been met for starting the program. This development of this initiative will be a focus in 2012.

Partnership Development

Several partnerships were solidified in 2011 that significantly benefits the NGDI membership and their project development. Early in 2011, the NGDI and the **Centre for Drug Research and Development** (CDRD) signed a memorandum of understanding to partner on projects for neglected global diseases. This not-for-profit national research centre provides early risk assessment on academic discoveries. This partnership allows NGDI projects to utilize CDRD's drug development platform and expertise to accelerate their move-

ment along the drug pipeline. This partnership will provide essential pre-clinical work for projects that can help to create an attractive profile for investment financing for clinical trials while working within the context of UBC's Global Access Principles.

Projects of interest or already in development include work on Tuberculosis, Malaria and Chagas disease. Experts from the NGDI will also advise the CDRD on projects submitted from outside UBC that pertain to neglected diseases.

Another partnership developed this year is with **Mitacs**, a national non-profit organization dedicated to developing the next generation of researchers. The NGDI worked with Mitacs to provide summer student placements with Dr. Frank Ko and Dr. Robert Hancock through the Globalink program. This fully funded program encourages students from India and now China that are already seeking education abroad to sample life at UBC.

Mitacs also contracted with iCo Therapeutics with Dr. Kishor Wasan as supervisor for an internship in the Accelerate program for a post-doctoral fellow. Dr. Fady Ibrahim will work on the *Pharmacological Evaluation of a Novel Oral Amphotericin B Formulation for the Treatment of Disseminated Candidiasis: Providing New Therapeutic Alternative to the Commercial Intravenous Formulation*.

NGDI Director, Dr. Kishor Wasan is an active member of the **American Association of Pharmaceutical Scientists** and has recently become the Chair for the Pharmaceuticals in Global Health Committee. The NGDI partnered with the AAPS to provide three Travelships to students presenting papers at the 2011 AAPS Annual Meeting.



Dr. Wasan provided promotion for the NGDI in interviews for the Voice of America and PharmTech magazine during the meetings.

The NGDI also co-hosted Dr. Clive Ondari from the **World Health Organization**. Dr. Ondari heads the Policy, Access and Rational Use of Medicines and is a world expert in essential drugs, indigenous medicines and medicines for children. After meeting with NGDI and touring the new faculty of pharmaceutical sciences building, he attended a roundtable facilitated by members Dr. Jerry Spiegel and Benjamin Warren at the School of Population and Public Health. The first outcome of this potential partnership is a contract awarded to NGDI for a review of pediatric medicines and clinical outcomes.

The **Faculty of Pharmaceutical Sciences** has continued its solid support of the program with a financial contribution and office support. The faculty also chose the NGDI as one of its priority projects in the new alumni and development campaign branded, *start an evolution*. The NGDI fulfills an international engagement function within the faculty and they are working hard to provide core funding for program sustainability.

Facilitation of Collaborative Grants and Project Development

The development of large-scale collaborative grants is a fundamental approach to NGDI research sustainability. During this year we facilitated the building of a team that could respond to calls for funding in the area of parasitic diseases such as malaria, leishmaniasis, chagas and soil-transmitted helminthes. There is a robust group of thirteen principal investigators with interests in drug discovery, development and diagnostics. The team held three meetings this

year and unfortunately, their interests were not close enough to provide a specific project to pursue as a group and we are working to provide opportunities for individual member's projects.

Another group that held preliminary meetings this year is in vaccine research and implementation area. This group was very diverse and members are working to develop or improve vaccines for malaria, pertussis (whooping cough) and leishmaniasis. Others work more directly with the immune responses and vaccine adjuvants.

Another group met surrounding issues of policy, implementation, public health, intellectual properties and law. This meeting helped to clarify that the best method of working with our diverse membership in terms of collaborative grants was to wait until there was a call for funding that we could facilitate. We are presently involved with a large grant opportunity and provided an open call to the NGDI community for collaboration. This group has met once and will meet again in January, 2012. The NGDI will sponsor a workshop in early February for the group to incorporate the necessary team and international participants needed.

A successful group that developed this year was in the area of sepsis management. The head of the team, Dr. Charles Larson, identified a team that will focus on enabling the early detection of sepsis among mothers, newborns and young children in developing countries. This project will be based in Bangladesh and will focus on this issue which has been largely neglected and misunderstood. The project is funded by the Canadian International Development Agency.



Individual project development is facilitated by NGDI through our partnership with the Centre for Drug Research and Development and through our contacts with global organizations such as Drugs for Neglected Diseases Initiative (DNDi), Medicines for Malaria Ventures and Seattle-based PATH.





Project and Member Updates

Drug Discovery

Dr. Jennifer Love's project, *Synthesis of K777*, for Chagas disease has been submitted to the NGDI-CDRD Joint Project Group and has potential to carry forward for work on developing compounds in 2012.

Dr. Chris Orvig's project, *Ferrocenyl-carbohydrate Conjugates in Malaria* has also been submitted to the NGDI-CDRD Joint Project Group and is in the process of completing a set of in-vitro studies before further consideration.

Dr. Santiago Ramon-Garcia's project, *New Therapeutic Drug Combinations for Tuberculosis Treatment* was awarded \$100,000 from Grand Challenges Canada as a Rising Star Award Project.

Drug Development

Dr. Kishor Wasan's project, *Oral Formulation of Amphotericin B*, for Leishmaniasis through iCo Therapeutics Inc., published two papers and was selected as a marquee project for the opening of the Alumni and Development Campaign *start an evolution*. Dr. Wasan also presented 3 posters at the 25th anniversary meeting of the AAPS in October.

Supply Chain

Dr. Rosemin Kassam's project *Reducing malaria related child mortality in Uganda*, has completed the collection of data and is being analysed.

Health Systems and Implementation Research

Dr. Charles Larson's project, *Interrupting Pathways to Childhood Sepsis*, received a \$2,800,000 grant from CIDA and the project will begin implementation in Bangladesh. This project also includes NGDI members, Rosemin Kassam, Niranjan Kissoon, and Kishor Wasan.

Dr. Annalee Yassi's project *Prevention, Diagnosis, and Treatment of HIV and TB in the Workplace*, launched its certificate program in Bloemfontein, South Africa in March. Dr. Yassi was the lead consultant for a triple UN Agency production of guidelines for HIV and TB prevention for health workers with was announced in Geneva on November 25.

Dr. Peter von Dadelszen's project *Prediction in Pre-Eclampsia: PIERS (Pre-eclampsia Integrated Estimate of RiSk)* is part of a much larger Bill and





Melinda Gates Foundation funded project to provide PRE-eclampsia – Eclampsia monitoring, prevention & treatment. The model is being tested in seven countries and recruitment is underway.

Olga Pena's *Accessible Science Initiative* began a Science without Borders seminar series in the fall. Three sessions were held by video, from South Africa, Mexico and Columbia helping to develop linkages to the UBC community from these experts.

Member Updates

Dr. Lindsay Eltis, Director, Centre for Tuberculosis Research was awarded the Killam Research Prize in Science, Applied Science and Medicine Category.

Dr. Chris Orvig was made a Fellow of the Royal Society of Canada.

Dr. Robert Hancock was inducted into the Canadian Academy of Health Sciences.

Dr. Kishor Wasan was awarded the Canadian Society for Pharmaceutical Sciences Award of Leadership in Canadian Pharmaceutical Sciences. Dr. Wasan was also named Associate Dean of Research and Graduate Studies for the Faculty of Pharmaceutical Sciences.

Dr. Annalee Yassi was honoured with the CIHR-CMAJ Top Canadian Achievements in Health Research Award. She and Dr. Elizabeth Bryce developed a collaborative research and training team whose work has changed practice and policy in infection control in Canada and many other Countries.

Dr. Jerry Spiegel received a Public Health Leader award from the Canadian Public Health Association. Dr. Spiegel has been in the forefront of promoting public health globally, and particularly equity in access to health-promoting environments and commu-

nity participation.

Dr. Steve Morgan was elected to a WHO Consultative Expert Work Group on Research and Development: Financing and Coordination.





Funding Awards

March

The Neglected Global Diseases Initiative received \$1,500 from the Government of British Columbia's Year of Science for the Celebrate Research Week event titled: *Creating Change Creating Impact*.

April

The Neglected Global Diseases Initiative received \$35,000 plus in-kind contributions from the Faculty of Pharmaceutical Sciences, the Office of the Vice President Research and International and the University-Industry Liaison Office for salaries and infrastructure support.

May

Dr. Kishor Wasan and the Neglected Global Diseases Initiative received a grant of \$22,500 from the Canadian Institutes of Health Research for *The NGDI at UBC: Research Collaboration for the Developing World*

June

Dr. Santiago Ramon-Garcia received a grant of \$100,000 from Grand Challenges Canada: Rising Stars Award for *New therapeutic drug combinations for tuberculosis treatment*.

July

Dr. Jerry Spiegel received a grant of \$1,900,637 from the Canadian Institutes of Health Research for *Food systems and health equity in an era of globalization: Think, Eat and Grow Green Globally (TEG3)*.

Dr. Annalee Yassi received a grant of \$1,926,236 from the Canadian Institutes of Health Research for *Promoting Health Equity by Addressing the Needs of Health Workers: A Collaborative, International Research Program*.

November

iCo Therapeutics, Dr. Fady Ibrahim (intern) and Dr. Kishor Wasan (supervisor) received \$15,000 from the Mitacs: Accelerate Internship Program.

December

Dr. Charles Larson (head), Dr. Niranjana Kisson, Dr. Kishor Wasan, Dr. Rossemin Kassam and others received \$2,795,738 from the Canadian International Development Agency: Muskoka Initiative Partnership Program for *Interrupting Pathways to Maternal, Newborn and Early Childhood Sepsis Initiative*.

The Neglected Global Diseases Initiative signed a contract of \$17,000 from the World Health Organisation for a *Review of Pediatric Medicines in Lower- Middle- Income Countries and Adverse Clinical Outcomes*.

2011 Events and Activities Timeline

January 14

The NGDI Inaugural Distinguished Lectureship Seminar Series featured Dr. Michael Hayden, Director of the Centre for Molecular Medicine and Therapeutics. Dr. Hayden was also awarded the Gairdner Wightman Award for 2011.

January 26

Memorandum of Understanding signed between the Centre for Drug Research and Development and the NGDI-UBC.

February 15-16

A joint press release from the CDRD and NGDI regarding the new partnership on February 15 garnered a CBC Radio One interview on the 16th.

January



February

March 4

Celebrate Research Week at UBC: *Creating Change, Creating Impact* event co-sponsored with the UAEM UBC Chapter featured a student poster competition and 4 speakers during the 2 hour event.



March

April

May

March 24

The Centre for Tuberculosis Research held a one day seminar for World TB Day. Dr. Kishor gave the introductory talk on the NGDI.

April 2-9

Dr. Kishor Wasan visited several prestigious schools during April. On the 2nd he spoke at Central Michigan University's Universities Allied for Essential Medicines conference. On the 7th he spoke at Cornell and on the 9th he spoke to the UAEM group at Harvard/MIT.

May 6,

Dr. Laurence Meadows, Director of Development for Mitacs BC Region presented the Accelerate and Globalink Program information to faculty and students.

May 13

Distinguished Lectureship Seminar Series continues with Dr. Julio Montaner, Director of the BC Centre of Excellence for HIV/AIDS. Dr. Montaner's talk provided more information on the Treatment as Prevention work that he has championed over the last decade.

May 26

The NGDI is awarded a Canadian Institutes of Health Research Panning Grant in the amount of \$22,500. This workshop funding will be used in Spring 2012 for team grant facilitation.

June 10

Dr. Kishor Wasan presented a lecture to the Department of Pediatrics at Grand Rounds at the Child and Family Research Institute.



June

July

August

June 16

The NGDI, the School of Population and Public Health and the Liu Institute for Global Issues co-sponsored a Roundtable with Dr. Clive Ondari of the World Health Organization.



July 12

Faculty members Dr. Wasan, Dr. Lester and Jennifer Choi of the Student Biotechnology Network were presented to Shad Valley students of 2011.

July 26

UBC Press Release for Jerry Spiegel and Annalee Yassi's individual CIHR program funding announcements in the amounts of \$1.9M and \$2.1M.

August 17-19

The NGDI sponsored three executive members of the Universities Allied for Essential Medicines from Central Michigan University for a site visit to UBC.

August 18, 2011

NGDI announced the award three travelships for students to travel to the 2011 annual meeting of the American Association of Pharmaceutical Scientists. These awards were valued at \$750 each.

August 26

The NGDI hosted a talk by Dr. Francois Jean, Director of the Facility for Infectious Disease and Epidemic Research.

September 28

Dr. Wasan and the NGDI are highlighted in the program for the opening of the Start an Evolution Alumni and Development Campaign for \$1.5 billion.

October 1

Dr. Wasan and Olga Pena present their work at the public opening of the UBC campaign at Vancouver Convention Centre. The event was attended by UBC alumni and the general public and included several lectures.



September

October



October 21

Distinguished Lectureship Seminar Series featuring Stephen Lewis, Co-Founder and Director, of AIDS-Free World. This event was attended by over 350 people and Mr. Lewis spoke on the topic of neglected global diseases.

October 21

NGDI co-sponsored a talk by Jonathan Smith, Yale epidemiologist and Director of the documentary "They Go To Die".

October 24-29

A press release from the American Association of Pharmaceutical Scientists annual meeting on the 24th regarding Dr. Wasan's 3 presented posters garnered an interview with Voice of America and an article in Pharm Tech magazine.

October 24

NGDI co-hosted (Drs. Jerry Spiegel and Annalee Yassi) a luncheon for student mentorship in honour of Dr. Michael Hayden, winner of the Gairdner Wightman Award.

October 26

Drs. Peter Singer and Abdallah Daar presented their new book *"The Grandest Challenge"*. This evening event was moderated by Dr. Videsh Kapoor, Director of the Global Health Program at the Faculty of Medicine.

November 7

The Accessible Science Initiative held a series of co-sponsored talks titled, *"Science without Borders"*. The events took place on November 7, 28 and December 12. These lunch hour sessions featured scientists from S. Africa, Columbia and Mexico.



November

December



December 1

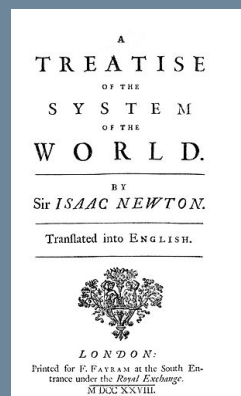
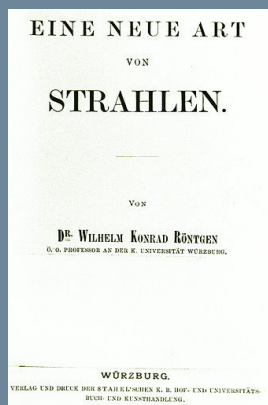
UBC Press Release on CIDA announcement of \$2.8 million Muskoka Initiative Grant to Dr. Charles Larson, head of the NGDI Sepsis Initiative for 3 year grant.

December 2

The fourth Distinguished Lectureship Seminar Series featured Dr. Stuart MacLeod. He presented on his involvement with the Better Medicines for Children Organisation.

December 5

NGDI signed contract to with the World Health Organization to review the quality of pediatric medications and adverse clinical effects in low- and middle- income countries. This will be a collaborative effort with the University of California, San Francisco.



Publications

The following is a selected list of member publications for 2011. Our membership is diverse and many of their publications do not directly relate to neglected global diseases.

Al-Dabbagh M, Lapphra K, McGloin R, Inrig K, Schaaf HS, Marais BJ, Sauve L, Kitai I, and Kollmann TR. Drug-resistant Tuberculosis. *The Pediatric Infectious Disease Journal* 2011, Vol30:6:501-505.

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