

The **Combat Diseases of Poverty Consortium** brings together scientific, academic, NGO and private sector expertise to build educational and research capacities for combating diseases of poverty. The CDPC aims to network researchers across geographical borders and disciplines, in order to foster a scientific exchange and opportunities for new collaborations. The **CDPC newsletter** serves as a platform for the exchange of information between CDPC partners and other interested parties.

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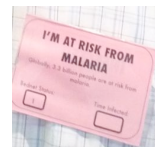
Welcome to the fourth edition of the CDPC newsletter! Again we have a packed issue to update you on recent developments and events within the CDPC. Our very active and successful secondary school outreach programme has been involved with the school team who recently won the Young Social Innovators award with their project 'The Butterfly Effect'. As part of this project they published a book on the millenium goals which contains contributions by transition year students as well as well-known writers, politicians and researchers. So we urge you not only to read more about their project on page 4, but also to consider buying a copy of their beautiful book, all proceeds of which go to Self Help Africa. Furthermore, a recently formed CDPC student initiative organised an event-filled week to mark World Malaria Day in NUIM on April 25th. In addition, we feature a report by Anderson Wambugu, a Kenyan researcher who recently returned home with some great results after four months of training with the CDPC in NUIM, TCD and Tridelta.

The newsletter aims to enhance and facilitate communication within the CDPC, so if you would like to see your research or recent publications featured, **please send me your contribution for the next newsletter by the 21st of August!**

-Dr. Martina Schröder

Malaria week in NUIM: Great 'Buzz'

The CDPC connects scientists and academics and also runs a successful secondary school outreach programme. This year, third level students at NUIM decided they wanted a piece of the action too. Plans for a CDPC student group were put forward earlier this year and late April saw its début, when the group organised a week of events to mark World Malaria Day in NUI Maynooth. The second annual World Malaria Day was held on April 25th and is a 'day of unified commemoration of the global effort to provide effective control of malaria around the world' (RBM website). A campus-wide campaign was held in NUIM to raise awareness of this treatable, curable and preventable disease. The CDPC student group, the Biology Society, the Anthropology Society and Amnesty International worked in tandem to organise a week of events: The Literary and Debating Society hosted a debate on the controversial motion: "The Positive Benefits of DDT for Malaria Control Outweigh Environmental and Other Risks". A guest lecture on "Virus Vector Based Malaria Vaccines" was given by Dr. Anne Moore from UCC, and a documentary on herb-derived malaria treatment entitled "Survival: Malaria!" was also screened. Throughout the week, a campus-wide Malaria Tag game ran. The game involved blood-thirsty organisers dressed as mosquitoes and potential student victims who, in a draw, were allocated different risk levels and resources in an attempt to illustrate the relationship between social inequality and disease risk. Suffice to say that there was a real 'buzz' in the university air that week. Furthermore, the collaboration of the Malaria Week team was a great success; which paves the way for future student efforts in the CDPC. *-provided by Ting Ting Shum*



The organisers of Malaria Week: Ting Ting Shum, John Whelan, Mike Polan, Lisa Gregory, Kevin Hunt (left, l-r), a malaria risk tag (middle) and two 'mosquitos' (right).

Green trees and exciting results in spring time

My research aims to develop rapid and cheap diagnostics for animal diseases as well as more effective vaccines for their control. To achieve this I felt it was important to improve my knowledge and skills in immunology, modern protein analysis technologies and molecular biology. This is why I applied to the CDPC for training. I was impressed that the CDPC recognised the importance of livestock in development and was delighted that they approved my application.



Anderson Wambugu is a senior technologist at the Kenya Agricultural Research Institute headquarters in Nairobi and undertook training with the CDPC in Ireland from February to May 2009.

On the left: Anderson with Patsy Toland from Self-Help Africa

When I arrived in Ireland in February I asked the taxi driver why all the trees had no leaves. It was my first exposure to winter in the Northern hemisphere. I did expect it to be cold, but wasn't prepared for the combination of wind, rain and low temperatures. It was also difficult to get used to the darkness of the short winter days. When I left at the end of May the weather was almost too warm some days, the leaves were back on the trees, everything was in bloom and the daylight lasted longer than I'd ever experienced. This reflects the changes that occurred in my work and knowledge. It seemed that each day was more or less the same and that things were changing quite slowly, but when I look at the beginning of my stay and the end of it, huge changes had taken place. Just like spring can bring hope and optimism, I have great hope that we can make an impact following my training with the CDPC. I learnt a lot during my training with the CDPC in areas of immunology, genomics, parasitology, molecular biology, protein separation and analysis. I was also able to build a database of lecture materials, notes, papers and other information, which I can use for my own benefit and that of my colleagues back in Kenya. I was impressed that the training was specifically tailored to my own requirements. I was also shown how I can reduce the use of expensive consumables and reagents without compromising on the overall results— something that is really important when resources are limited.

A particular highlight of my stay was the visit to Tridelta Development Limited with Kieran Walsh, a former director and owner. It was a revelation that this company can develop, manufacture and supply diagnostic kits for use in 40 countries worldwide with just a few staff members. It struck me that we have the ability to do this in Kenya; we don't require expensive infrastructure, just the knowledge and committed people. I also visited Alltech and was impressed that this Irish owned international company was built on a simple concept and is based on the importance of proper nutrition for animal health and development. The importance of the link that the CDPC has established with the private sector became more apparent during the course of my work. My ultimate aim is to develop simple, fast, reliable and low cost diagnostics that can be used by anyone to diagnose infectious diseases. Kieran Walshe and his team were instrumental in me realising the first part of this dream. In Kieran's lab we adapted reagents I had developed in Kenya to be used on a simple strip, where a pink line would indicate an animal infected with contagious caprine pleuropneumonia (an important goat's disease in Kenya). This is called a lateral flow test and works on the same principle as the home pregnancy test. To our amazement and delight it worked really well giving results in just two minutes. We are all excited by this development as this is exactly the type of test for this (and other) disease(s) that we need in Kenya and elsewhere in Africa. It requires further development to work on a small drop of blood from an animal so it can be used by people with a minimum of training. Amazingly, the test uses about 1,000 fold less reagents than the best test we currently have. Current tests require skilled people, expensive consumables, infrastructure and take at least an hour to perform. Because of the low cost and ease of use our new test can have a significant impact on diseases in animals of resource-poor farmers and pastoralists in Africa. Our hurdle now is to secure funding to develop the test further and move it from the lab to where it is needed most. Currently it is difficult to identify a funding agency to support this important work, but we will continue hunting till we succeed. I am indebted to the CDPC for the training in Ireland and for helping me to begin realising my dream. My compliments go to Hayley Coristine who coordinated everything from the beginning when I was still in Kenya, to Noel Murphy who gave guidance on a daily basis in the laboratory and made schedules for my activities and to Martina Schröder for accommodating me in her reading room and her general hospitality.

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My sincere gratitude goes to Kieran Walshe, Stephen Carberry and Sean Doyle who taught me important proteomic and immunoassay techniques. I was privileged to spend time in Trinity College Dublin in the lab of Derek Nolan and I'm indebted to Noirin for showing me real time PCR. Outside of work, Joseph Clowry (or Joe as I came to know him), the education officer of the CDPC, brought me to his home in Carlow and introduced me to Irish music and rural life in Ireland. I spent a day with one of his friends, a livestock farmer, and learnt how different farming systems are in Ireland compared to Kenya. I also really enjoyed my time with Noel Murphy seeing Howth and our lunch in Clontarf Castle where I could feel like a king! It is my wish and hope to continue the development of rapid immunodiagnosics. Being in a National Research Institute in Kenya, I will invest all the experience and knowledge that I have gained to improve the control of livestock diseases for the benefit of resource-poor people of Kenya and the region. I wish the CDPC lots of success and may this important venture continue to grow beyond the current funding cycle.



Left picture: Anderson on his visit to an Irish farm with farmer Peter Gorman, from Baltinglas, Co. Wicklow
 Right picture: Anderson in Clontarf castle 'feeling like a king'.

-provided by Anderson Wambugu

Diseases of poverty - do young people in developed nations understand?

Among the diseases that are prevalent in Africa, HIV/AIDS, malaria and tuberculosis top the list. These diseases account for nearly 18% of the disease burden in the poorest countries and are therefore referred to as the primary diseases of poverty. The poor are more likely to be exposed to infectious diseases due to a number of factors. These factors range from broken-down health care systems, poor nutrition, poor sanitation, overwork, overcrowding, and stresses of life etc. These factors can predispose an individual to disease or if already with a disease, lack the capacity to access appropriate medical assistance. The diseases can perpetuate poverty by utilising the already meagre resources of families or individuals. The effects can be felt at a national level. Various efforts are underway to address diseases of poverty. These efforts include programs in developed and developing countries. In developed countries there are a number of governmental and nongovernmental organizations striving to increase global health equity by supporting organizations working in infectious disease prevention, vaccine research and development. They are committed to expanding worldwide access to proven, effective basic prevention and treatment for those who are sick and at risk from the diseases of poverty. With the current recession, how much longer are developed countries able and willing to fund these projects? There are talks by the majority of developed governments of cutting back on spending. Will this involve reduction in or complete withdrawal of medical research funding? There is urgent need to lobby so as not only to secure the current funding but also seek ways of expanding the funding base. There should be heightened advocacy for expanded funding to fight these diseases and work to maximize the effectiveness of the funding. Emphasis should be placed on the current young generation in order to equip them with knowledge and enable them to appreciate the need for continued funding of these projects by developed countries. These are the future tax payers, decision and policy makers, and therefore a vital group that will determine the future of funding. It is therefore important to get young people thinking about development issues. The time is now.



-provided by Anthony Lubonga
 Antony Lubonga is a graduate of Egerton University, Kenya, where he trained in Biomedical Sciences. He is currently a Post Graduate Research Student at Waterford Institute of Technology, Ireland. His research project involves 'Circulating microparticles-A prognostic marker of unstable atherosclerotic plaques.'

The Butterfly effect: Winners of Young Social Innovator Competition

The CDPC is very happy to congratulate St. Peter's College, Dunboyne and Colaiste Bhríde, Carnew on winning First Prize at the 2009 Young Social Innovators (YSI) showcase with their project "The Butterfly Effect". Our education officer, Joseph Clowry, and Patsy Toland from Self-Help Africa (SHA) worked with the schools and facilitated workshops and presentations. CDPC trainees from Africa visited the two schools and were impressed with the students' outstanding engagement and awareness of Development Issues and their active citizenship.

Their project for the YSI aimed to highlight the issues of poverty, and to this end the students themselves undertook a 'Poverty Week', where they lived in (relative) poverty for a week, and produced a book on the Millennium Development Goals called 'Twenty Fifteen'. In the course of this, they also developed an innovative resource, "Poverty Week, Our Week, Their Lives", which can be used by other schools to reproduce their "Poverty week" experience. The CDPC and SHA will distribute this resource and encourage schools to take part.

The 'Twenty Fifteen' book contains articles, essays, poems, songs and pictures dealing with the first Millennium Development Goal to eradicate poverty. The authors range from transition year students to scientists to politicians to well regarded writers and poets, such as Seamus Heaney, Anne Enright, Joseph O'Connor and Sebastian Barry. The book was launched in May at the Irish Aid centre and all the profits from its sale will be used by Self Help Africa for their projects in Africa. This is an outstanding achievement and the CDPC is honoured to have been working with these students. To cite the thoughts of the CDPC's International Advisor, Prof Michael Kelly: "It is a terrific piece of work. I just want you to know that I am thrilled silly with it!"

What makes their accomplishment even more special is the collaborative nature of the project, which involved two schools located in different counties (Meath and Wicklow), and the students therefore had to make extensive use of Skype, emails, text messages and Bebo.

Once again, we would like to congratulate the students, their dedicated and enthusiastic teachers and their schools, and urge you to support their initiative and Self Help Africa by buying their beautiful book, which is available at www.selfhelpafrica.net.



The Winners from St. Peter's College, Dunboyne and Colaiste Bhríde, Carnew are presented with their prize by St. Stanislaus Kennedy.



At the reception that was hosted by the CDPC for the YSI winners at NUIM: CDPC co-chairs Dr. Jamie Saris and Dr. Noel Murphy with Aideen Flood (Teacher, St. Peter's College) and Eleanor Lee (Programme Co-ordinator, Colaiste Bhríde)



The YSI trophy

Vital publics of Pure Blood

Blood supplies have become indexes of national security and the public good. While blood shortages can provoke anxiety, controversies continue to erupt in many countries over proper donor screening, especially with reference to HIV. This article sketches these dynamics in several global settings, focusing especially on contestation over exclusionary blood donor guidelines.

Thomas Strong, 2009, "Vital Publics of Pure Blood," Body & Society, 15(2):169-191.

We depend on your contributions for making this newsletter an interesting resource for CDPC partners. It is your tool for disseminating information about your work to other partners! **Please send your contributions for the June/July edition of this newsletter to Martina.Schroeder@nuim.ie until the 21st of August!**