



The Poverty Related Disease College
An International Programme on Biomedicine and Development

(Training the next generation of European & African researchers for HIV/AIDS, Malaria, TB & neglected infectious Diseases)
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FINAL REPORT

Partner institutions



Coordinating Institutions
 Grant Agreement number:
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University of Yaounde I, Cameroon
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Coordination and Support Action
August 1, 2009 – 31st March 2013
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A - PUBLISHABLE EXECUTIVE SUMMARY

The PRD College set out as objectives the training of the next generation of researchers from PRD endemic countries and from Europe to start collaboration at an early stage in their career that will enable them to place science within the context of development in Africa. Certain capacity areas were to be given focus through elective and mandatory courses followed by an internship in development at an African institution and a science exchange program. Divided into 6 work packages and 5 modules, the training capacities had to be strengthened at 3 PRD Centres in Uganda, South Africa and Cameroon and involve advanced PhD students and/or post-doctoral participants from Africa and Europe. Following the proposal that was prepared and signed, the kick off meeting was successfully carried out in August 2009. A total of 24 students were enrolled, 8 from Europe institutions and 16 from African institutions making a total of 26 African and European.

The **Basic Educational Elective Programme (BEEP)** of 82 lectures covered basic notions in the Molecular Biosciences and Infection Biology including the cellular and molecular basis of disease, immune evasion, management and prevention of Poverty Related (PR) and Neglected diseases (ND) and interactions between chronic non-communicable diseases and polymicrobial infections. The **Advance Educational Elective Programme** held from Nov 29th - Dec 17th, 2010 at the ICGEB, UCT, South Africa, and focussed on translational research methods that allowed for the provision of hands-on experiments using sophisticated equipment and reagents. In all, 23 of the 24 students were present representing 96% attendance. The **Reality Check (RC)** had Fellows composed into 7 groups on practical grounds: language (mainly Francophone or Anglophone), location of residence and, to a lesser extent, the research topic. This took place from January to July 2011 and Fellows performed this exercise in Ndola, Zambia; Cape Town in SA; Mbeya in Tanzania; Kampala in Uganda; Bamako in Mali; Blantyre in Malawi and Yaoundé /Bamenda in Cameroon. One Fellow could not meet the time lines due to a conflict with PhD schedule in Canada. The training module on the **Mandatory Education Programme (MEP)** on soft held in Cameroon from August 1-19, 2011. There was the participation of 23 Fellows and the assembly of 15 lecturers form out of the consortium mainly from Cameroon Germany, Italy and Sweden. The breadth of lecture trained Fellows on effective communication, pedagogy, Intellectual property and copyright, knowledge translation, grant writing and bioethics. The MEP also saw the participation of the Catholic University of Cameroon Bamenda that had applied to the UYI to let them adopt the PRD College training modules for their teaching of graduate students. The **Science Exchange (SE)** began during this difficult period of a debt recovery imposed on UYI by the EC. However due to these delays only 13 out of 16 secondments of African Fellows to relevant scientific institutions in Europe and USA were completed. An additional 2 Fellows due to demand for technology transfer did this SE twice. The SE took place in October 2011 to March 2012 (for 3 Fellows) and from November 2012 to March 2013). Participating Fellows were included in technical experimental activities at the same time as they were subjected to a wider training on scientific and logical thinking, organisational and managerial skills, and communication/networking actions, through direct exposure and involvement and continuous confrontation with mentors/tutors. **An Outlook Meeting** took place in Siena, Italy in 6th-8th March 2013. Prior to the meeting, students met in two groups, in Sweden and Italy, to discuss future projects and assess whether the PRD College met its objectives. For the Fellows, PRD College met its objectives and their expectations by about 85-90%, despite the drawbacks and delays caused by the Debt Recovery. In keeping with triggering an early collaboration between the fellows, Fellows joined forces with their mentors and have been able to come up with a series of executable projects, to which seed funds were provided by PRD College to allow the realisation of full proposals for submissions to funders. A total count of 12 out of 22 fellows now got positions in institutions of Higher Education or as head of national reference laboratories and some 11 more got or will get their PhDs in this year 2013. On **management**, the PRD College encountered a difficulty, learning of the debt recovery that was inflicted on the PRD College by the EC for a debt incurred by another project. The amount was 288,000 Euros, and it took 15 calendar months following repeat visit to the EU delegation and government. The Government realised the problem it had caused the university and paid back the funds. This allowed the completion of her activities based on the requested extension granted by the EU Commission until March 2013. In **Public Relations**, the PRD College ran a website where all its major activities and any mention of its activities by other interested partners were publicised. The PRD College was represented in a number of public presentation in America, Europe and African Institutions, Newsletters were periodically published and a communication and marketing plan for the Alumni of the PRD College has been developed and to be used to promote post PRD College activities.

In conclusion the PDC College has met with all its deliverables and milestones and has successfully trained 23 next generation scientists from Europe and Africa with great career prospects demonstrable by the job offers taken up by the Fellows in African and European Academic Institutions.

B - SUMMARY DESCRIPTION OF THE PROJECT

B.1 - INTRODUCTION

The development agenda for Africa is currently experiencing an unprecedented period of funding to address the diseases that contribute to its economic stagnation. These illnesses currently known as poverty related diseases (PRD), are principally HIV/AIDS, malaria and tuberculosis, but also include classical tropical diseases such as schistosomiasis, trypanosomiasis, filariasis and intestinal nematode infections and respiratory tract infections. For these funding mechanisms to have meaning, it is important to develop or build capacity of scientific cadres who can sustain the achievements. A multiplicity of factors deter from achieving this and that includes academia where in most African institutions have not grown and are hardly adapted to the changing landscape of new science and knowledge. "Talent poaching" and "brain-drain" to industrialised countries has been the only way to a better scientific career by Africans.

Developing nations can thus not make the most of their human capital and establish the critical mass to define, develop and sustain research programmes. As a consequence there is a disconnection between the current biological scientific and medical knowledge and their application for the development of the health and scientific sectors. While science and the knowledge economy grew around the world, many African nations became information poor. The disconnection between the biomedical sciences and the development agenda can be bridged by focussing on relevant research, and this aim is common ground between the African nations who wish to develop and the European Union who wish to contribute and to collaborate with Africa to achieve these goals.

In the African context, research is fuelled by two drives: the quest for a fundamental understanding of systems and secondly the application of these results for development and poverty reduction. By combining reactive models (applied for improved technology) and proactive models (basic science for improved understanding) the PRD College proposes a simple logical framework that forms the basis for training the next generation of PRD scientists in Africa. By forging bidirectional intercontinental synergies and collaborations with European scientists and openings for European young scientists, the PRD College will help to prevent a brain drain and will contribute to research based development.

The experience of members of this consortium in the Multilateral Initiative on Malaria (MIM), begun by TDR within WHO and later supported by the Gates Malaria Partnership of the London School of Hygiene and Tropical Medicine and the EU funded Network of Excellence post-doctoral programmes, confirms that scientific capacity building in Africa is beneficial for both disease control as well as for national development. However, it has become apparent the scientific sector in Africa cannot yet stand on its own feet and needs to be enhanced and directed towards development to be sustainable. It is also recognised that no single institute can offer and maintain training in all aspects of biomedicine and development and as a consequence, a multi-institutional approach is necessary.

We had proposed to establish the PRD College as a virtual institute and a network, that connected African and European biomedical scientists and their institutions and that aimed at consolidating science and its role in the development of Africa. The PRD College had proposed to develop a modular training curriculum and open this for selected Fellows from Africa and Europe. The curriculum of each of the first three modules lasted 3 weeks for the Basic Elective Educational Programme (BEEP), the Advanced Elective Educational Programme (ADEEP), and a 3-week stay in Cameroon for the Mandatory Educational Programme (MEP) was preceded by a 2-3 months Reality Check in Africa and a 1-2 months stay in Europe or 4months in one case or in America for two fellows, for the Science Exchange programme.

B.2 - SUMMARY OF OBJECTIVES

The principal objective of this proposal was to create the next generation of researchers from PRD endemic countries and from Europe to start collaborations at an early stage in their career that enabled them to place science within the context of development in Africa. To have achieved this, the project proposed to have focus on crucial areas to build capacity through elective and mandatory courses. The PRD College then planned to train young fundamental biologists and health researchers from both Europe and Africa to understand the underpinnings of operational issues in health and development and thereby make science, especially biological science, more pertinent in resolving contemporary problems. The PRD College alumni now forms part of the next generation of scientists in Africa as well as in Europe, who combine research expertise with a thorough understanding of development and international issues and aspirations. In addition, the PRD College did succeed

in the transformation of the trainee scientists to a level where they become trainers in their own country to spread knowledge and skills acquired.

Members of the consortium were made up of the following:

Participant	Participant organisation name	Country
1 (Coordinator) Wilfred Mbacham	Biotechnology Centre University of Yaounde I	Cameroon
2. Katharina Kuss	Go Africa	Germany
3. Marita Troye-Bloomberg	Department of Immunology, Stockholm University	Sweden
4. Peter de Vries	Academic Medical Center Amsterdam	The Netherlands
5. Iqbal Parker	ICGEB, Cape Town	South Africa
6. Diana Boraschi	CNR Italy	Italy
7. Fred Kironde	Makerere University	Uganda
8. Stefan Kaufmann	Max Planck Gesellschaft zur Foerderung der Wissenschaften e.V.	Germany
9.. Emmanuel Kafwembe(died) replaced by Modest Mulenga	Tropical Disease Research Centre	Zambia
10. Michael Hoelscher replaced by Leonard Maboko	Mbeya Medical Research Programme	Tanzania

To have achieved these, the PRD College planned and conducted the specific activities in 6 work packages led by experienced beneficiaries:

WP No.	Work package title	Leading Partner	Planned Person months	Start Month	End month	Actual Person Months
WP1	Consortium Management	UY1	18,1	1	45	35,54
WP2	Strengthening Training Capacities of PRD Centre	ICGEB	22	1	12	20,83
WP3	Training of New Generation Scientists	SU	47,2	4	21	54,16
WP4	Science Exchange Programme	CNR	19,5	7	45	18,19
WP5	Reality-Check Internships at African Institutions	AMC	24,1	10	24	20,59
WP6	Public Relations and Networking	GA	22,8	13	45	18,95
	TOTAL		153,7			168,46

B.3 - WORK PROGRESS

The PRD College had as objective the training of the next generation of researchers from PRD endemic countries and from Europe to start collaboration at an early stage in their career that will enable them to place science within the context of development in Africa. Certain capacity areas were given focus through elective and mandatory courses followed by an internship at development centres at an African institution/research site and a science exchange program in Europe. Divided into 6 work packages, training capacities were strengthened at 3 PRD Centres in Uganda, South Africa and Cameroon and involved MDs, advanced PhD Fellows or post-doctoral participants from Africa (17) and Europe (06).

B.3.1 - Management of the Consortium - UY1 (WP1) The Consortium Agreement between the partners was signed and filed. The Consortium held the kick off meeting in Yaoundé, Cameroon, its first consortium meeting in Kampala, Uganda, the second meeting was in Cape town, South Africa and the third consortium meeting in Yaoundé Cameroon. An Executive Committee made up of WP leaders. A debt recovery

order was passed over the University of Yaoundé I from a project begun 10 years back. The Committee worked so hard to achieve the debt recovered over a period of 15 months. This was with the help of the internal Advisory Board of the PRD College at UYI. The External Advisory Board members continued to assist with the management and debt recovery process and finally when it was paid back by the state of Cameroon, that allowed for the organising of the remainder of the Science Exchange Programme at institutions in Europe and America, as well as the Outlook Meeting that took place in Siena, Italy, amid great promise of a continuity and heightened enthusiasm.

B.3.2 - Strengthening training capacities of PRD Centres (WP2): The third training was developed at the UYI and took place from August 1-19, 2011. The staff was made up of an addition of 16 lecturers who were not members of PRD College (neither Fellows Partners nor Advisors). They were assisted in the development of their lectures and these have been made available to students who desire to use them for teaching. In this second period (from January 1st 2011 to March 31st, 2013), the following has been achieved: A fully developed module on Soft Skills was done at the University of Yaoundé I and fully recognised by the authorities; This development has resulted in the installation of a Graduate School programme in Public Health Biotechnology at the University of Yaoundé I. Similarly a programme in Health Economics, Policy and Management has been initiated at the Catholic University of Cameroon, Bamenda and major structural parts such as the reality check module have been adopted.

B.3.3 - Training of the New Generation of Scientists for the PRD College (WP3): This witnessed the participation of 22 Fellows and the assembly of some 15 lecturers from out of the consortium, mainly from Cameroon but also from the EC and Sweden, in addition to several Consortium members. The breadth of lecture exposed students to disciplines that are not usually taught to scientists such as Effective communication, Pedagogy, Intellectual property and copyright, Knowledge translation, grant writing and bioethics.

B.3.4 - Science Exchange Programme (WP4): Given the shortage of time, the programme had to be rearranged and new hosting institutions selected, including two centres in the USA. Thirteen out of 17 secondments of African fellows to relevant scientific institutions in Europe and USA were completed with eleven reports submitted by the fellows (one is a joint report for three fellows doing the internship together). The internship locations were: Max Planck Institute for Infection Biology (MPIIB-Berlin, Germany); University of Zurich (Zurich, Switzerland); University of Roma Tor Vergata (Roma, Italy); National Research Council (CNR; Pisa, Italy); Stockholm University (SU-Stockholm, Sweden); Centre for Neglected Tropical Diseases (CNTD-Liverpool, UK); Dartmouth College (New Hampshire, USA); Stanford University (Stanford, CA, USA) and Aristotle University (Thessaloniki Greece). In general, projects of 3 months succeeded in achieving some scientific experimental results, while shorter stays resulted in more emphasis in the theoretical and soft skills type of training (course, project management, networking, etc.). A first concrete outcome of the Science Exchange programme is one publication by Dzedzom De Sousa, in collaboration with the hosting institution CNTD. The Management and Soft Skills Programme was implemented during the Science Exchange activities by involving fellows in actions not directly related to the scientific experimental work, but nevertheless instrumental to the scientific outputs. Six fellows did not participate due to other concurring commitments that did not allow them perform this exercise, while two fellows did the exercise twice.

B.3.5 - Reality Check (WP5) To have placed the students in the different sites, the requirements were that they were safe for foreign fellows to work, that research activities were on going and that logistical constraints were not prohibitive. The fellows were grouped on pragmatic reasons: language (mainly Francophone or Anglophone), location of residence and, to a lesser extent, research topic. The Reality Check took place from January to July 2011. Fellows were grouped to perform this exercise in Ndola, Zambia; Cape Town in SA; Mbeya in Tanzania; Kampala in Uganda; Bamako in Mali; Blantyre in Malawi and Yaoundé /Bamenda in Cameroon. MoUs were signed with the field supervisors and the experiences were wonderful, with fellows reporting gaining great changes in their perception of tropical diseases. It was an education module developed with the intention to expose fellows to the reality of the environment in which communities have to deal with health and disease of poverty and its influence on choices in health seeking behaviour. Responses of formal and traditional health providers demonstrated how poverty and also long standing cultural factors play a major -if not a long time neglected- role. A total of 22 out of the 23 PRD College fellows enlisted for the Reality Check. One fellow could not meet the time table of the Reality Check due to a conflict with his PhD training schedule in Canada.

B.3.6 - Public Relations (WP6) The PRD College ran a website where all its major activities and activities by other interested partners are publicised. The training lecture notes Cameroon are available. Awareness raising about PRD College also reached policy makers in Africa, Europe and in international panels such as the German Parliament, the Ministries of Higher Education in Cameroon and the Ministry of Education in Uganda, University of Bauchi in Nigeria. Other Conferences and Seminars include the ANDI meetings in October 2010 in Nairobi, Kenya, the CAAST-NET meeting in October 2010 in Marseille France and the ASTMH meeting in November 2011 in Atlanta USA. The PRD College objectives and achievements were presented in a meeting in Heidelberg in 2011. A manual has been generated with a detailed communication plan which will be used at the end of the PRD College exercise. PRD College newsletters continued to be produced through out the period.

B.3.7 Selected Fellows: Fellows were selected on the basis of the educational performance, the willingness for their institutions to take part in the consortium and accompany the Fellows as mentors. The came from the consortium and from 16 other institutions outside the consortium:

Daniel Amoako Sakyi (Ghana) dasakyi@yahoo.com d.amoako-sakyi@uccsms.edu.gh School of Medical Sciences, University of Cape Coast, GHANA	Dziedzom De Souza (Ghana) ddezouza@noguchi.mimcom.org Noguchi Memorial Institute for Medical Research, Univ of Ghana, GHANA
Maiga Bakary (Mali) bmaiga@icermali.org Faculty of Medicine, Pharmacy and Odonto-, University of Bamako, MALI	Benson Nyambega (Kenya), nyambega@dna.uba.ac.ke Department of Biomedical Science & Technology, Maseno University, KENYA
Mariama Cherif (Burkina Faso) cherif.mariama@yahoo.fr Centre National de Recherche et de Formation sur le Paludisme (C NRFP), Ouagadougou, BURKINA FASO	Ibrahim Hassan Garba (Nigeria) ihgarba2002@yahoo.com Abubakar Tafawa Balewa University, Bauchi, NIGERIA
Chibueze Ihekwereme (Nigeria) chibuezei@gmail.com cp.ihekwereme@unizik.edu.ng Dept of Pharmacology & Toxicology Toxicology, Nnamdi Azikiwe, University Awka, NIGERIA	Joseph Fokam (Cameroon) fokamjoseph2002@yahoo.fr joseph.fokam@circb-cameroun.org Chantal Biya Reference Centre for Research and AIDS Prevention, Yaounde, CAMEROON
Dylo Pemba (Malawi), pembady@chanco.unima.mw Biological Sciences, University of Malawi-Chancellor College, Zomba City, MALAWI	Anthony Kebira (Kenya) akibera2000@yahoo.com School of Applied and Pure Sciences Kenyatta University
Thomas Dorlo (The Netherlands), Thomas.Dorlo@gmail.com Div. Infect Dis, Trop Med & AIDS Academic Medical Center, NETHERLANDS	Susana Monge (Spain) susanamcorella@hotmail.com Instituto de Salud Carlos III,, Madrid, SPAIN
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Siti Kabanda (South Africa) siti.kabanda@gmail.com International Centre for Genetic Engineering and Biotechnology, Cape Town, SOUTH AFRICA	Anali Conesa Botella (Belgium) aconesa@itg.be Institute of Tropical Medicine, Antwerpen, BELGIUM
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Khoa Thai (The Netherlands), t.d.thai@amc.uva.nl Academic Medical Centre, Amsterdam, NETHERLANDS	Valeria Ciancarella (Italy), valeria.ciancarella@libero.it Sapienza-Universita di Roma, Cellular & Developmental Biology, ITALY
Fatuma Namusoke (Uganda), namusokefk@yahoo.co.uk College of Health Sciences, Makerere University, UGANDA	Fabienne Paasch (Belgium), fabpaasch@hotmail.com University of Antwerp, Antwerp, BELGIUM
Chanda Mulenga cmulenga@gmail.com TDRC Zambia replaced fabienn Paach	Nicholas Midzi (Zimbabwe) midzinicholas@yahoo.com National Institute of Health Research, Harare, ZIMBABWE

C - MAIN SCIENCE AND TECHNOLOGY RESULTS

C.1 STRENGTHENING TRAINING CAPACITIES OF PRD CENTRES (WP2)

WP leader Prof. M. Iqbal Parker

C.1.1 - Introduction

The strengthening of training capacities was addressed through lectures and courses organised at 3 PRD centres in Uganda, South Africa and Cameroon. The course structure was such that fellows started at a basic level, then progressed into an advanced technology transfer course. They had the chance to carry out an internship at an African institution on development, and a science exchange programme in Europe and to complete part of their work for their on-going degree or research projects.

C.1.2 - Identification of Facilitators

Facilitators were drawn from the Consortium and where this expertise did not exist internally, the consortium linked up with other institutions with databases having mailing lists of scientists to place an open call for expertise. The existing list of centres of excellence identified within the context of past EU funded programmes were considered. These include YAS-CPN, BioMALPAR, AMANET, ANTIMAL and EDCTP. The following criteria will be used to assess the suitability of the faculty:

- Professional level
- Length of expertise in the tropical diseases or PRD
- Comparative advantage of laboratory installations
- New technology investor or developer outside Europe or Africa.
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C.1.3 - Development of the Joint Programme on PR & ND

The development and extension of the curricula in each of the participating institutions was one of the most important steps. European and African universities and/or research institutions closely cooperated in capacity building of African Research Institutions and in developing of a Joint Programme on Poverty Related and Neglected Diseases (PRD &ND). This cooperation was based on experience in exchange in the following domains:

- Development and extension of curricula
- Elaboration and update of core course elements
- Lecturer exchanges and joint teaching programmes
- Exchange on methods of empowering scientists to teach
- Design and planning of educational experience
- Identification of support mechanism for young scientists
- Graduates' career development

The WP2 was based on the organization and curriculum development of three educational packages, two Elective Educational Packages (EEP) and one Mandatory Educational Package (MEP). The educational packages were offered by three independent African institutions. The PRD educational programme starts with a basic knowledge (Basic Elective Educational Package – BEEP) on which is built advanced and applied scientific notions (Advanced Elective Educational Package – ADEEP) necessary for a broader understanding of complex health care and developmental issues, complemented by practical experience gained during the lab experience at the courses (WP3), the scientific exchange programme (WP4) and the reality-check practical exposure (WP5).

Eligibility criteria for facilitators were set to be only expert in their domains. The need to have had a PhD and a working experience of five years of teaching or research in that area. Facilitators were there identified first within the institution and then from without if none was found from within. The curriculum development then took the nature of a joint collaboration assuring quality by providing guidelines for the preparation of lectures and ensuring that these were respected to training manuals have been put together and is available on the website.

C.1.4 - Selection of participating Institutions

Institutions other than those within the consortium, applying for participation in the project to host a PRD COLLEGE student(s), during the WP4 (Science Exchange Programme) or WP5 (Reality Check Programme) were asked to define and describe the strengths and weaknesses of their institutions in terms of research capacity. They would commit themselves to participation in the PRD COLLEGE by offering their scientific knowledge and experience as part of training or internship sessions. As a proof of sustainability, the participating institutions guaranteed a post training position by the institution, for a reasonable period after successful completion of the PRD College programme. The selection of institutions participating in the project were therefore guided by clear selection criteria, keeping in mind the actual local capacity for hosting a student. A regional balance between Francophone and Anglophone Africa was considered as well as the gender factor, to provide equal opportunities to all Africans. The selection of institution tied in with the selection of the candidates as well. Following this the following institution non-consortium members were selected and MoUs established with them.

Non-Consortium Member Institutions	Country
School of Medical Sciences, University of Cape Coast;	GHANA
Faculty of Medicine, Pharmacy and Odonto-, University of Bamako	MALI
Centre National de Recherche et de Formation sur le Paludisme (C NRFP), Ouagadougou,	BURKINA FASO
Dept of Pharmacology & Toxicology Toxicology, Nnamdi Azikiwe, University Awka,	NIGERIA
Biological Sciences, University of Malawi-Chancellor College, Zomba City,	MALAWI
Noguchi Memorial Institute for Medical Research, Univ of Ghana,	GHANA
Department of Biomedical Science & Technoligy, Maseno University,;	KENYA
Abubakar Tafawa Balewa, University, Bauchi,	NIGERIA
Chantal Biya Reference Centre for Research and AIDS Prevention, Yaounde,	CAMEROON
School of Applied and Pure Sciences Kenyatta University,	KENYA
Instituto de Salud Carlos III, Madrid,	SPAIN
Institute of Tropical Medicine, Antwerpen,	BELGIUM
Dept of Parasitol & Mycology, Fac of Medicine, University Cheikh Anta Diop, Dakar,	SENEGAL
Sapienza-Universita di Roma, Cellular & Developmental Biology,	ITALY
University of Antwerp, Antwerp,	BELGIUM
National Institute of Health Research, Harare,	ZIMBABWE

C.1.5 - Curriculum Development

Curriculum for the first training was developed by Profs Iqbal Parker and Marita Troye-Blomberg with support from Prof Wilfred Mbacham, Prof Carmen Fernandez, Dian Boraschi with feedback from other Consortium members. The course content reflected basic biology of infections and response, epidemiology and public health and Vector biology and Pharmacology as electives. The team of Dr. Lozza Laura, Pr. Diana Boraschi, Pr. Carmen Fernandez, Wilfred Mbacham and Prof Iqbal Parker team developed the second curriculum for ADEEP. The MEP Course in Yaoundé was developed by Prof Wilfred Mbacham and a group of 15 lecturers at university of Yaoundé.

Facilitators at the Basic Educational Programme Kampala, April 2010

Pr. Iqbal Parker	ICGEB Cape Town
Pr. Marita Troye-Blomberg	Stockholm University, Sweden
Dr. Peter De Vries	Amsterdam Medical Centre, Holland
Dr. Laura Lozza	Max Planck Gesellschaft zur Foerderung der Wissenschaften e.V

Pr. Diana Boraschi	National Research Council, Italy
Pr. Fred Kironde	Makerere University, Uganda
Pr. Wilfred Mbacham	University of Yaounde, Cameroon
Pr. Qijun Chen	Stockholm University, Sweden
Dr. Arne Kroidl	Univ of Munich, Mbeya Medical Research Program, Tanzania
Dr. Steven Smits	Malaria No More, Holland
Pr. Wabwire Mangu	Makerere University, Uganda
Dr. A Katamba	Makerere University, Uganda
Dr. Jackson Orem	Makerere University, Uganda
Pr. J. Ogwal-Okeng	Makerere University, Uganda
Dr. P. Waako	Makerere University, Uganda
Mr. Allan Lugaaju	Makerere University, Uganda
Dr. Celestino Obua	Makerere University, Uganda
Pr. C. Masembe	Makerere University, Uganda
Dr. Jude Bigoga	University of Yaounde, Cameroon
Dr. Enock Matovu	Makerere University, Uganda
Dr. F. Kazibwe	Makerere University, Uganda
Dr. J. Kirunda	Makerere University, Uganda

**Facilitators at the Advanced Educational Programme
ICGEB, Cape Town, Dec 2010**

Pr. Iqbal Parker	ICGEB Cape Town
Pr. Marita Troye-Blomberg	Stockholm University, Sweden
Pr Carmen Fernandez	Stockholm University, Sweden
Dr. Laura Lozza	Max Planck Gesellschaft zur Foerderung der Wissenschaften e.V
Pr. Diana Boraschi	National Research Council, Italy
Dr. Paola Italiani	National Research Council, Italy
Pr. Fred Kironde	Makerere University, Uganda
Pr. Wilfred Mbacham	University of Yaounde, Cameroon
Dr. Steven Smits	Malaria No More, Holland
Pr. Fred Kironde	Makerere University,
Dr. Modest Mulenga	TDR, Ndola Zambia
Pr. Jeffrey Dorfman	ICGEB, Cape Town, RSA
Pr. Frank Brombacher	ICGEB, Cape Town, RSA
Dr. Kevin	ICGEB, Cape Town, RSA
Dr Christl	ICGEB, Cape Town, RSA
Dr Lemach	ICGEB, Cape Town, RSA
Dr. Beverly	ICGEB, Cape Town, RSA
Mr. Reagon	ICGEB, Cape Town, RSA
Mr. Elroy	ICGEB, Cape Town, RSA
Dr Ian Smith	ILLUMINA, (Industry), RSA

**Faculty of the Mandatory Educational Programme – Soft Skills
Yaounde Cameroon, August 2011**

LECTURERS	INSTITUTION OF ORIGIN
Pr. Jean-Emmanuel PONDJ	University of Yaoundé II
Pr. Godfrey B. Tangwa,, PhD	University of Yaoundé I
Mrs. Ruth Jordan	Coord Office for Research and Dev, UYI
Pr. Justina A. Njika	University of Yaoundé I
Dr. Ana Nieto, MD. PhD.	European Commission, Brussels

Dr. Ekokola Molindo	University of Yaoundé I
Dr. Babilla Mutia	University of Yaoundé I
Dr. Marcello Ferrada	Stockholm University, Sweden
Mrs. Anna-Leena Jarva	Stockholm University, Sweden
Mrs. Ulla Jungmarker	Stockholm University, Sweden
Me. Roland Abeng	Abeng Law Firm, Douala, Cameroon
Pr. Bathelémy Nyasse	University of Yaoundé I, Cameroon
Dr. Robert Mba	University of Yaoundé I, Cameroon
Ms. Embele Patience Fominyen	Radio Health International, Cameroon
Pr. Ongolo Pierre	Centre for best Practices in Health, Cameroon
Yaah Viban Gladys	USA Embassy, Yaoundé, Cameroon
All College Fellows	PRD College Fellows
Pr. Wilfred Mbacham	PRD College Partner - Cameroon
Pr. Marita Troye-Blomberg	PRD College Partner – Sweden
Dr. Laura Lozza	PRD College Partner – Germany
Dr. Lucas Maganga	PRD College Partner – Tanzania
Dr. Modest Mulenga	PRD College Partner – Zambia
Pr. Diana Boraschi	PRD College Partner – Italy
Dr. Peter de Vries	PRD College Partner – Holland
Ms. Maria Kersten	PRD College Partner – Germany
Pr. Fred Kironde	PRD College Partner – Uganda
Pr. Igbal Parker	PRD College Partner – South Africa
Pr. Carmen Fernandez	PRD College Advisor – Sweden
Dr. Steven Smits	PRD College Advisor - Holland
Pr. Bob Colebunders	PRD College Advisor - Belgium

C.1.6 - DEVIATIONS AND CORRECTIVE ACTION TAKEN

The course time per module was reduced from 4 to 3 weeks for logistic and practical reasons. Otherwise no other deviations are reported.

C.1.7 - USE OF RESOURCES

The actual amount of person months spent in the second reporting period on WP2 is summarised as follows:

WP2	UYI	GA	SU	AMC	ICGEB	CNR	MU	MPIIB	TDRC	MMRP	TOTAL
Planned total	2,0	0,5	2,5	2,0	5,0	2,0	2,0	2,0	2,0	2,0	22
Spent by M18	1,5	0,5	1,0	0,6	4,0	2,0	1,7	2,0	0,7	1,0	15
Spent by M45	0,05	0,0	2,5	0,7	1,0	0,0	0,2	0,0	0,38	1,0	5,83

C.2 - TRAINING OF THE NEXT GENERATION SCIENTISTS ON PRD (WP3): WP leader Prof. Marita TROYE-BLOMBERG

C.2.1 - Introduction

The objectives were set to achieve: The selection of the New Generation Scientists for the PRD College; The training of the BEEP at African PRD Centre 1 (Makerere University, Kampala, Uganda), April 7-29, 2010; The training of ADEEP at African PRD Centre 2 (ICGEB, Cape Town, South Africa), November 27 – December 17, 2010; The training of MEP at African PRD Centre 3 (University of Yaoundé I, Yaoundé, Cameroon), August 1-20, 2011. While the first three objectives were reached in the course of the first period, the last one was attained in the second period and detailed hereafter.

C.2.2 - The Selection of New Generation Scientists for the PRD COLLEGE

PRD COLLEGE Fellows came from all over Europe and Africa. The number of Fellows enrolled in the PRD COLLEGE was 24. Enrolment and admissions was based on selection criteria with the presentation of information of the award of an MD, PhD or be on actual advanced enrolment into a PhD programme as well as Post Doctoral fellows in African Institutions. Candidates were therefore:

- not older than 35 years of age at the time of application
- enrolled at a University at the time of application
- presented a defined project and demonstrate institutional support
- demonstrated the need for additional support
- had the written consent of their supervisor

Gender and linguaphone balance was considered at every stage of the selection process. High scores range from 3-5, low scores are 2 and below. No fraction. The first group includes the European candidates and those presented by College members. 1/. **College** 4/. **Support**: 2/. **Candidate Interest**: 3/. **Strong Recommendation**. 4/. **Scientific Development**: 5/. **Institutional Interest** 6/. **English**. The 24 candidates selected were as follows below

Daniel Amoako Sakyi (Ghana) dasakyi@yahoo.com d.amoako-sakyi@uccsms.edu.gh School of Medical Sciences, University of Cape Coast, GHANA	Thomas Dorlo (The Netherlands) Thomas.Dorlo@gmail.com Div. Infect Dis, Trop Med & AIDS Academic Medical Center, NETHERLANDS	Innocent Ali (Cameroon) dr.alinn@gmail.com Laboratory for Public Health Research Biotechnologies, Univ of Yaounde I, CAMEROON
Maiga Bakary (Mali) bmaiga@icermali.org Faculty of Medicine, Pharmacy and Odonto-, University of Bamako, MALI	Paola Giungato (Italy) paolagiungato@interfree.it Institute of Biomedical Technologies, National Research Council (CNR), Pisa, ITALY	Khoa Thai (The Netherlands), t.d.thai@amc.uva.nl Academic Medical Centre, Amsterdam, NETHERLANDS
Mariama Cherif (Burkina Faso) cherif.mariama@yahoo.fr Centre National de Recherche et de Formation sur le Paludisme (C NRFP), Ouagadougou, BURKINA FASO	Siti Kabanda (South Africa) siti.kabanda@gmail.com International Centre for Genetic Engineering and Biotechnology, Cape Town, SOUTH AFRICA	Fatuma Namusoke (Uganda) namusokefk@yahoo.co.uk College of Health Sciences, Makerere University, UGANDA
Chibueze Ihekwereme (Nigeria) chibuezei@gmail.com cp.ihewereme@unizik.edu.ng Dept of Pharmacology & Toxicology Toxicology, Nnamdi Azikiwe, University Awka, NIGERIA	Benson Nyambega (Kenya), nyambega@dna.uba.ar Department of Biomedical Science & Technology, Maseno University, KENYA	Dziedzom De Souza (Ghana) ddesouza@noguchi.mimcom.org Noguchi Memorial Institute for Medical Research, Univ of Ghana, GHANA
Dylo Pemba (Malawi), pembady@chanco.unima.mw Biological Sciences, University of Malawi-Chancellor College, Zomba City, MALAWI	Ibrahim Hassan Garba (Nigeria) ihgarba2002@yahoo.com Abubakar Tafawa Balewa University, Bauchi, NIGERIA	Anthony Kebira (Kenya) akibera2000@yahoo.com School of Applied and Pure Sciences Kenyatta University
Luc Christian Gwom (Cameroon) gw4lucr@yahoo.fr Chantal Biya International Reference Centre for Research and AIDS Prevention, Yaounde, CAMEROON	Joseph Fokam (Cameroon) fokamjoseph2002@yahoo.fr joseph.fokam@circb-cameroun.org Chantal Biya Reference Centre for Research and AIDS Prevention, Yaounde, CAMEROON	Susana Monge (Spain) susanamcorella@hotmail.com Instituto de Salud Carlos III,, Madrid, SPAIN
Anali Conesa Botella (Belgium) aconesa@itg.be	Valeria Ciancarella (Italy) valeria.ciancarella@libero.it	Ibrahima Diouf (Senegal) dioufi11@yahoo.fr

Institute of Tropical Medicine, Antwerpen, BELGIUM	Sapienza-Universita di Roma, Cellular & Developmental Biology, ITALY	Dept of Parasitol & Mycology, Fac of Medicine, University Cheikh Anta Diop, Dakar, SENEGAL
Nicholas Midzi (Zimbabwe) midzinicholas@yahoo.com National Institute of Health Research, Harare, ZIMBABWE	Fabienne Paasch (Belgium) fabpaasch@hotmail.com University of Antwerp, Antwerp, BELGIUM	

C.2.3 - Training of BEEP at African PRD Center 1 (Makerere Univ, Kampala Uganda). April 2010

The courses included lectures of practical relevance to poverty related and neglected diseases. Each lecture in the specific “basic” subject were coupled to a series of other “applied” lectures. The laboratory practice was an essential part providing opportunities for the transfer of technology, including familiarity with scientific instrumentation and good laboratory practice, an important asset either for Fellows who came from and the north as much as for those coming from the south were able to use the local structures and expertises as much as possible. This section focused on strengthening the scientific knowledge of the Fellows, and creating the ground for a broader understanding that helped the design and development of their scientific projects demonstrating how new technologies applied to their context of infections.

Training of the ADEEP at an African PRD Center, 2 (University of Cape Town RSA) Nov 29 - Dec 17, 2010

Built into the courses were advanced notions on the specific subject followed by a lecture regarding the development and results of projects carried on in their labs, creating examples in how advanced knowledge can apply to PRD research with successful results. The courses were built on the knowledge platform with laboratory practice of new advanced techniques. Fellows will be introduced to new techniques and technical principles, followed by a second part in which they manipulated the instruments to reproduce by themselves the experimental set up, sustaining the idea of learning by doing.

Training of MEP at an African PRD Centre 3 (University of Yaoundé I, Cameroon), August 1-20, 2011

A curriculum for the Mandatory Educational Programme (MEP) was developed that included in outline the following topics. Institutional and Personal briefs, Personal Development Plan, Of stress & Stress management, Conducting Meetings, Epistemology, Your Attire Counts, Skills Development: Career Options, Science in Africa, Transforming Leadership in Science, Science, Diplomacy and Negotiations, African Social/Cultural Milieu”, Health Research Ethics, PRDC REALITY CHECK Tanzania, Uganda, Malawi, Cameroon, Zambia and South Africa, Student Interest and Research Progress, Building Lesson Plans, Health Directorate DG Research & Innovation European Commission by Ana Nieto, Orientations for EU Framework Programmes, Personnel Management and Team Building, Setting Learning Objectives, Student Bonding and Topic Discussion on the Science Culture, Africa - Viral Haemorrhagic Fevers" How to obtain research funding, Learning to Communicate in Public- Topics of Choice, Effective Writing Skills - Part 1: Theory, Effective Writing Skills - Part 2: Practice, Science, Decision making and Development: The potential of Evidence-based Science Advice on Africa’s development by Professor Vincent P.K. Titanji, Vice Chancellor, University of Buea, Framework programs of the EU, Writing Grant Applications, Writing an EU Application for a Project, Of Copyrights trademarks and access to Information, Intellectual Property, The Law, protection and Enforcement of IP rights, Social Research and Point of care Matters, Life After the PRD College – Joseph Fokam, Granting Interviews to the media, Knowledge Translation, Opinion Editorials. Details of these are included in Deliverable D3.2.3 – (Evaluation Report with performance indicators. Module Mandatory Educational Programme – MEP)

C.2.4 - Quality Assurance - Strategy for Lecture Preparations

- 1- All lectures were in power point which were made available in soft and hard copy to the candidates
- 2- All lectures started with learning objectives and ended with a summary or take home message. Each of these may not exceed 5 bullet points.

- 3- Each lecture was provided with a pdf version of the most representative article as the case might have be.
- 4- The last but one slide had - 3-5 references for student consultations during personal time.
- 5- Each lecturer had per topic provided 3 multiple choice questions for student evaluation at the end of the course.

C.2.5 - DEVIATIONS AND CORRECTIVE ACTION TAKEN

No deviations were reported except that the course was run for 4 instead of 3 weeks. This was to contain practicality in logistics. Dr Ibarhim lost his wife and so hurried home for burial and will be given remedial classes to catch up with the lost time and lectures. These classes will be based on the lectures notes already provided and when he visits Cameroon during his reality check will be followed up by Prof. Mbacham. This will be the same when he visits MPI in Germany during his Science Exchange programme.

C.2.6 - USE OF RESOURCES

The actual amount of person/months spent on WP3 is summarised as follows:

WP3	UYI	GA	SU	AMC	ICGEB	CNR	MU	MPIIB	TDRC	MMRP	TOTAL
Planned total	4,8	2,6	6,0	4,8	5,8	3,0	5,8	4,8	4,8	4,8	47,2
Spent by M18	2,8	2,1	3,1	0,3	4,0	3,0	5,2	2,5	1,5	1,5	26
Spent by M45	2,4	0,79	6,0	4,8	1,8	1,0	0,3	6,8	0,97	3,3	28,16

C.3 - SCIENCE EXCHANGE PROGRAMME TO EUROPEAN/USA INSTITUTIONS (WP4) **WP leader Prof. Diana Boraschi**

C.3.1 - Introduction

The Exchange Programme was of high reputation due to its selection process done by the Fellowship Committee, research institutions and PRD College members. Through the international exchange of academics, knowledge and skills in PRD research, a new network of scientists was formed. The duration of the internships in the collaborating institutions were a maximum of 3 months. At the end of the internship the fellow provided the PRD College with an activity report on responsibilities and scientific progresses achieved at the host institution. The research institutions participating in the project were obliged to receive interns from the programme and support them. However fellows were free to select institutions outside the consortium if it required that more relevant technologies for their research were at these institutions. Each student received an scholarship to contribute to the bench expenses of the receiving institution. The exchange programme was an extremely valuable instrument for fellows coming from Africa to European and USA institutions, in particular for the focus on practical experience with new technologies.

C.3.2 - Establishing of a Research Mentorship programme

With experienced and successful leaders in science encouraging and helping promising young scientists, this programme introduced the fellow researcher into a rich scientific community with experiences and benefits gained from the scientifically stimulating atmosphere around them. The fellows eventually developed and refined their research and presentation techniques, problem solving capacity, his/her ability to think critically as well as acquisition of leadership skills. The role of the mentor generally encouraged, guided and supported the fellow. Mentors and the mentees met regularly to ensure:

- The provision of Fellows with timely, factual, and relevant scientific reasoning and to encourage and support their research project progression;
- The instilling in Fellows the importance of scientific cooperation, information exchange and networking;
- The provision of sound advice and counsel to researchers throughout the programme, balancing

background and specific needs and priorities to carry on with their scientific career.

C.3.3 - Review of Scientific proposals and Award of Travel grants

All proposals for the science exchange programme, prepared by the fellows together with their mentors and their future hosts, were reviewed by an Expert Oversight Committee to make this more context relevant and scientifically strong.

Logistics, timing, travel and lodging costs were coordinated and synchronised allowing for laboratory arrangements and travel/health insurances be dealt with. Hosting laboratories were supported by a minimum sum depending on the programme envisaged by the Fellows and host laboratory.

C.3.4 - Internships in Europe and Africa. Programme on Management & Soft Skills

Thirteen internships were performed by African fellows in relevant laboratories in Europe and USA. Three of them took place between the end of 2011 and beginning of 2012, despite the unexpected shortage of funds, but, for the same reason, they had to be shortened in time (no more than 3 months). Other ten internships took place at the beginning of 2013, once funds became again available. In this case, the limiting factor was time to the end of the project. Thus, project preparation, identification of hosting institutions, travel organisation and logistics were all performed in a very accelerated fashion (see full reporting in D4.2 and D4.3), so as to allow fellows to perform and conclude their internship by March 31, 2013 (official end date of the PRDC project). As a consequence, also this round of science exchanges could not last longer than 3 months.

Individual reports of the internships in Europe and USA: Thirteen internships (contained in Deliverable D4.2 - review reports on performance of Science exchange project with the annexes in same order below) were performed as follows:

01. Fellow: Ibrahim Hassan GARBA
Place: Max Planck Institute for Infection Biology (MPIIB; Berlin, Germany)
Supervisor: Laura Lozza (Kaufmann lab, Consortium member)
Period: January 1, 2012 – March 1, 2012
Title: ***Autophagy gene expression in myeloid dendritic cells infected with wild type and mutant BCG strains***
Report: See Annex I “Report Science Exchange Garba”
02. Fellow: Luc Christian GWOM
Place: University of Zurich (Zurich, Switzerland)
Supervisor: Alexandra Trkola (external to the Consortium)
Period: November 1, 2011 – January 31, 2012
Title: ***Identifying HIV specific broadly inhibitory DARPins (Designed Ankyring Repeat Proteins Inhibitors)***
Report: See Annex II “Report Science Exchange Gwom Zurich”
03. Fellow: Joseph FOKAM
Place: University of Roma Tor Vergata (Roma, Italy)
Supervisors: Vittorio Colizzi and Carlo Federico Perno (external to the Consortium)
Period: February 9, 2012 – May 22, 2012
Title: ***Study of HIV-1 drug-resistant minority quasi-species leading to treatment failure among Cameroonian children***
Report: See Annex III “Report Science Exchange Fokam Roma”
04. Fellow: Innocent ALI
Place: National Research Council (CNR; Pisa, Italy)

- Supervisor: Diana Boraschi (Consortium member)
Period: January 19, 2013 – March 18, 2013
Title: ***A new cost-effective method for generating myeloid dendritic cells in vitro***
Report: Annex IV “Report Science Exchange Ali”
05. Fellow: Chibueze IHEKWEREME
Place: National Research Council (CNR; Pisa, Italy)
Supervisor: Diana Boraschi (Consortium member)
Period: January 15, 2013 – March 10, 2013
Title: ***A new cost-effective method for generating myeloid dendritic cells in vitro***
Report: Annex V “Report Science Exchange Ihekwereme”
06. Fellow: Anthony NYAMACHE
Place: National Research Council (CNR; Pisa, Italy)
Supervisor: Diana Boraschi (Consortium member)
Period: January 17, 2013 – March 17, 2013
Title: ***A new cost-effective method for generating myeloid dendritic cells in vitro***
Report: Annex VI “Report Science Exchange Nyamache”
07. Fellows: Daniel AMOAKO-SAKYI, Maiga BAKARY, Mariama CHERIF
Place: Stockholm University (SU; Stockholm, Sweden)
Supervisor: Marita Troye-Blomberg (Consortium member)
Period: January 1, 2013 – March 31, 2013
Title: ***Genotyping SNPs in the Fcγ receptor of malaria-resistant Fulani tribe: a key for understanding genetic resistance to malaria***
Report: Annex VII “Report Science Exchange Amoako_Bakary_Cherif”
08. Fellow: Dziedzom DE SOUZA
Place: Centre for Neglected Tropical Diseases (CNTD; Liverpool, UK)
Supervisor: Moses J. Bockarie (external to the Consortium)
Period: January 18, 2013 – February 22, 2013
Title: ***Lymphatic filariasis in Sierra Leone and Liberia***
Report: Annex VIII “Report Science Exchange De Souza”
09. Fellow: Luc Christian GWOM
Place: Dartmouth College (New Hampshire, USA)
Supervisor: Margaret E. Ackerman (external to the Consortium)
Period: January 7, 2013 – March 31, 2013
Title: ***Rapid mapping of gp120 core antibodies from HIV infected patients’ sera***
Report: Annex IX “Report Science Exchange Gwom USA”
10. Fellow: Joseph FOKAM
Place: Stanford University (Stanford, CA, USA)
Supervisors: Robert Schafer and David Katzenstein (external to the Consortium)
Period: January 20, 2013 – March 31, 2013
Title: ***Application of next generation sequencing for the study of HIV-1 genotypic drug resistance among non-B strains***
Report: Annex X “Report Science Exchange Fokam USA”
11. Fellow: Dyló Foster PEMBA
Place: Aristotle University (Thessaloniki, Greece)
Supervisors: Georgios Theodoridis (external to the Consortium)

Period: February 8, 2013 – March 18, 2013
 Title: **Metabolomics, a new tool in life sciences**
 Report: Annex XI “Report Science Exchange Pemba”

In general, projects of 3 months succeeded in achieving some scientific experimental results, while shorter stays resulted in more emphasis in the theoretical and soft skills type of training (course, project management, networking, etc.). A first concrete outcome of the Science Exchange programme is one publication by Dziedzom De Sousa, in collaboration with the hosting institution CNTD in which the PRD College is acknowledged:

Dziedzom K. de Souza, Benjamin G. Koudou, Fatorma K. Bolay, Daniel A. Boakye, Moses J. Bockarie. 2013. Filling the gap 115 years after Ronald Ross: the distribution of the Anopheles coluzzii and Anopheles gambiae s.s from Freetown and Monrovia, West Africa. PLoS One (in press).

C.3.5 - The Management of Soft Skills Programme

This was implemented during the Science Exchange activities by involving fellows in actions not directly related to the scientific experimental work, but nevertheless instrumental to the scientific outputs. Some of the fellows were able to effectively express in their reports the awareness of the additional skills they were acquiring through direct exposure (e.g., problem-solving approach, project planning and management, networking and collaboration). This training programme was intertwined to the more specific technical training and implemented by the supervisors during the entire duration of the internship. The programme was not established in a formal fashion, because it had to be adapted to the different circumstances, locations, fellows and tutors. Most of the training came from direct exposure of fellows to issues and problems, to develop their capacity to tackle problems and find appropriate solutions. A list of the issues addressed is given below:

Action	Goal
Exposure to a scientific environment and to scientific reasoning	Stimulating logical thinking
Knowing new people and new cultures	Encouraging mutual understanding and respect
Regular participation to lab meetings, courses and congresses	Establishing a network of friends in science and fostering future collaborations, improving communication skills
Deciding the scientific topic of internship	Stimulating original thinking
Deciding the scientific goal of the internship study	Stimulating focused thinking
Deciding the work plan and workflow of the internship study	Stimulating planning and organisational thinking
Evaluating the logistics of the work plan	Stimulating project management capacities
Identification of project's pitfalls	Stimulating critical thinking
Learning new techniques and reading scientific literature	Refining problem-solving approach and capacity to use appropriate tools for optimal solutions
Preparing budget proposal for the internship study	Stimulating organisational and logistics capacities
Writing proposals/papers	Stimulating synthesis, focus, logics, critical thinking, communication skills.

C.3.6 - Results obtained and Conclusions

Despite the forced delay and the necessary re-shuffling (which implied a significant reduction of internship duration), the activities of WP4 have been successfully conducted.

1. Thirteen secondments of African fellows to relevant scientific institutions in Europe and USA have been completed;
2. Eleven reports have been submitted by the fellows who performed the Scientific Exchange (one is a joint report for three fellows doing the internship together), summarising the scientific and non-scientific outputs of the secondments;
3. Fellows were included in technical experimental activities and at the same time were subjected to a wider training of scientific and logical thinking, organisational and managerial skills, and communication/networking actions, through direct exposure and involvement and continuous confrontation with tutors;
4. The funds remaining available from the decreased number of secondments (13 vs. 17 initially expected) were used for a more structured implementation of Task 4.5 - Continuation of the Programme at Home Institutions (see Report of Deliverable 4.5).

C.3.7 – Deviations and Corrective Action Taken

Eleven out of 17 Fellows were trained through the Science Exchange programme, two of them exploiting it twice with excellent results. Due to the delay caused by the debt recovery, six fellows were not available for performing the Science Exchange because of new job or professional commitments (C. Mulenga, B. Nyambega, I. Doiuf, F. Namusoke, S. Kabanda), or because they could not identify the proper hosting institution in time (N. Midzi). Thus, 13 exchanges were made instead of the 17 initially foreseen. The non-spent funds were employed for fostering new networking and capacity building activities, i.e. the fellows' meetings in Sweden and Italy for reviewing PRD College outputs and expectations, and for funding the preparation of joint research proposals (see report of the Outlook Meeting).

C.3.8 – Use of Resources

The actual person/months claimed by beneficiaries on WP4 are summarised as follows:

WP4	UYI	GA	SU	AMC	ICGEB	CNR	MU	MPIIB	TDRC	MMRP	TOTAL
Planned total	2,1	0,6	1,8	1,5	1,5	3,0	2,5	2,0	2,5	2,0	19,5
Spent by M18	0,2	0,6	0,0	0,0	0,7	2,2	0,5	0,5	1,0	0,0	5,7
Spent by M45	1,05	0,0	1,8	0,5	1,5	2,2	1,3	2,2	0,44	1,5	12,49

C.4 - REALITY-CHECK INTERNSHIPS AT AFRICAN INSTITUTIONS (WP 5)

WP leader Dr. Peter de Vries

C.4.1 - Introduction

The objectives of this work package were set to:

- provide practical exposure intended to bring the fellows into direct contact with aspect of development in Africa;
- enforce exposure on how technical knowledge acquired in the course of their training contributes to development;
- ensure a twinning process where the European and African fellows are paired with an African in the PRD College to complete their internship creating early synergies;
- encourage teams of two to look for a third or more partners for the joint formulation of new ideas and areas of research for a new project proposal.

This part of the programme was very innovative and it was part of this work package to further develop ideas and approaches for joint collaboration. The scope of this part of the programme was two fold. The first concerned making the young African and European scientists who participate in the curriculum of the PRD College

acquainted with development needs in Africa, and stimulating them to harmonise their research agenda with the priorities that are relevant for development for the health and research sectors in African nations.

C.4.2 - The Provision of Practical exposure, The Paring and Team Work

Fellows need to place their knowledge of science within existing health and health support structures. Thus, they have been involved in activities such as sample collection for projects already set up by the guest institution, and getting familiar with local infrastructures. In each site the Fellows have been introduced to the health system structure where PRD are most endemic. Fellows from Europe were paired with those from Africa to jointly acquire the experience and to be able to visit and get acquainted with hindrance to and possibilities of conducting research in PRD countries. This experience has been as valuable for the fellows from the North as well as those from the South, underlining the differences between the countries and making all of them aware of the cultural issues that can play a great role in the set up of scientific projects in endemic countries.

The second scope was that African participating institutions were induced to develop the necessary infrastructure in which the Fellows could have their practical exposure (i) to use this exercise as a topic for sustainable collaborative research (ii), to have contact with training modes relevant to development of the health and scientific sectors in African Nations (iii), to develop the programme in close contact with the local stakeholders of that sector.

One of the purposes for health research in Africa is to generate knowledge that can be used as support for the local development of health strategies and to deal with the problems that arise from health delivery. The generated knowledge was enormous and the Fellows as development agents have emerged with a wealth of information on developing strategic plan for disease control programmes.

To understand the reality of health and disease in a study site this module was placed within a conceptual framework:

- disease is the result of exposure to risk factors that lead to the event of developing symptoms;
- biomedical research is to contribute to the improvement of health;
- improvement of health is the result of better responses of health provider to the needs of people.

Tasks for PRD College Fellows in their reality check included:

1. Assess some basic demographic, sociological, economical, climatological and ecological characteristics (Including a map in some GIS package, e.g health mapper (WHO))
2. Assess the burden of disease in the study area (indicators to be defined, but certainly includes indicators of
3. Make an inventory of the exposure factors that lead to the observed burden of disease and suggest which exposure to certain diseases could be reduced and how (cf. DALYs averted by certain health intervention).
4. Assess how the observed burden of disease translates into health / help seeking behavior:
5. Make a "stake holder analysis" table of those involved in health and health care in the area (local/regional/national government, NGOs, all health providers population/researchers etc.).
6. Make an inventory of health providers (very broad concept, includes health systems (MoH), those involved in health promotion, preventive services, public health, curative health services, official health care versus lay/private/traditional etc providers)
7. Include a description of their professional status / educational level.
8. Give a description on how topics 1 -6 interact, with an emphasis on where things can be improved.
9. Indicate how research can contribute to the health of and care and specify this for (very) poor and more affluent populations.
10. The reality check should not take more than 3 months. The most efficient is probably to develop **rapid assessment tools** (much is available through the internet). The use the same methodology can allow the fellows to transform this into a quick transcontinental study and seek for publication of the collated data.
11. Suggested exercise: work together on the research question **that captures the philosophy** of PRD college and start translating that into a rapid assessment tool.

C.4.3 - Twinning/Paring Strategy & Site Supervisors

- The Reality Check period was generally reduced from a 3 months minimum to a minimum of 1 month to allow fellows carry out their own projects which are not the same as that of PRD College.
- Twinning and triplets were established after a lengthy exercise on pairing as presented in deliverable D5.1 and D5.2)
- Some fellows were allowed to carry out reality check in their own Southern Partner Institutions.
- Reality Check helped the fellows collect data that was used during the science exchange programme or for joint publications.
- All pairs or triplets of fellows have carried out their visit at the same time.
- Mentors were allocated to the different groups to follow up.
- No payment was given to the fellows except reimbursement of expenses.

1. Prof. Fred Kironde

Makerere University, Uganda

Hosting: F. Namusoke Fatuma, I. Diouf, T. Dorlo

30/05/2011-02/07/2011

2. Prof. Iqbal Parker

International Centre for Genetic Engineering & Biotechnology, South Africa

Hosting: S.Kabanda, A. Conesa Botella, P. Giungato, L.C. Gwom, I. Ali

01/05/2011-27/05/2011

3. Prof. Sostain Chiotha Grade

Section of Parasitology, University of Malawi, Malawi

Hosting: K.T.D. Thai, D. De Souza, D. Pemba

01/04/2011-31/05/2011

4. Prof. Wilfred Mbacham

Biotechnology Centre, University of Yaoundé I, Cameroon

Hosting: I.H. Garba , B. Nyambega

01/05/2011-01/07/2011

5. Dr. Leonard Maboko, Lucas Maganga, Dr. Arne Kroidl

Mbeya Medical Research Programme, Tanzania

Hosting: J. Fokam, S. Monge, A. Kebira Nyamache

09/05/2011-29/07/2011

6. Prof. Anatole Tounkara and Prof. Amagana Dolo

Université de Bamako, Mali

Hosting: M. Cherif, B. Maiga, D. Amoako-Sakyi

01/04/2011-31/05/2011

7. Dr Modest Mulenga

Tropical Diseases Research Centre, Ndola, Zambia

Hosting: C. Mulenga, V. Ciancarella, N. Midzi

30/05/2011-01/07/2011

C.4.4 - Synopsis of Reality Check Execution of Tasks

An instruction manual of 26 pages was drafted that in essence carries the different assignments to be delivered by the Fellows. This instructional manual is included as a deliverable. The reality check of the PRD College took place in 2011. It was an education module developed with the intention to expose fellows to the reality of the environment in which communities have to deal with health and disease of poverty and its influence on choices in health seeking behaviour for "poverty related diseases". Only 22 of the 23 PRDC fellows enlisted for the reality check performed this exercise. One fellow (C.P. Ihekwereme) could not meet the time tables of the reality check. The reality check was hosted by seven African research centres as shown in Table 1. The research centres

identified a site where research was conducted and that was suitable to conduct the series of assignments for the reality check.

Group nr.	Nationality fellow	Gender	Hosted by
1+7	Italy	F	International Center for Genetic Engineering and Biotechnology & Cape Town University, and Dept of Public Health, Cape Town, South Africa.
	Cameroon	M	
	Cameroon	M	
	South Africa	F	
	Belgium	F	
2	Mali	M	Université de Bamako, Faculté de Médecine, de Pharmacie, et d'Odonto-Stomatologie, Mali
	Burkina Faso	F	
	Ghana	M	
4	The Netherlands	M	Section of Parasitology, University of Malawi, Malawi
	Malawi	M	
	Ghana	M	
5	Nigeria	M	University of Yaoundé I, Yaoundé , Cameroon
	Kenya	M	
6	Kenya	M	Mbeya Medical Research Programme, Mbeya, Tanzania
	Spain	F	
	Cameroon	M	
8	Senegal	M	Dept. of Biochemistry, Makerere University, Kampala, Uganda
	Uganda	F	
	The Netherlands	M	
9	Zambia	F	Tropical Diseases Research Centre, Ndola, Zambia
	Zimbabwe	M	
	Italy	F	

Not all assignments could be completed at all sites. The reports are shown in deliverable D5.3. which contains analysis of the findings have been documented in D5.3 The following evaluation of the reality check pertains to its primary objective, *i.e.*, a functional contribution to the training to achieve the PRDC goal or facing the realities of disease as perceived by the beneficiaries.

In its evaluation this module demonstrated that:

1. All teams presented a report on their experiences (D5.3 – Internship Reports).
2. During plenary sessions all assignments of the reality check were discussed and all comments were noted point by point and then split up in two categories: general comments, and personal experience that contributed to the development of personality. This process was complemented with formal interviews held with all fellows. Finally, private talks in the corridors also provided useful information.
3. A questionnaire to evaluate usefulness of the reality check was filled out by all fellows.

General comments, reported narratively: Learning points on the whole process (to avoid in future for other reality checks):

- We did not include an evaluation moment of the results other than the duty to prepare a report and a presentation.
- Most groups thought that each site should have had an A + EU fellow, but in the one group without an E-fellow was not felt to be a problem.

- Transcultural problems were there and should be discussed..
- More attention should be given to the minimum and maximum time to be spent on the reality check and the number of assignments.
- More training in accounting, including explanation of the stipend etc. was needed before reality check field work.
- Financial constraints were felt, mostly in logistical issues, but in one case (the Cameroon team) fellows wanted to do Focus Group Discussion with traditional healers, which proved too expensive. It has to be noted that, unfortunately, there has not been a more elaborate discussion as to why these traditional healers demanded payment for an interview.
- Need research/logistics assistance.
- “Some terrain would have been too difficult for females”. The -all male- team in Cameroon needed their physical strength during some of their activities.
- The season has to be taken into account in the planning for RC’s (Cameroon)

One important outcome is that one fellow immediately drafted and submitted a proposal connecting lab and field, in response to what was discovered during the reality check. Details of the performance per assignment are contained in Deliverable D5.5 – (Report of the Internships in Africa)

Impact on personal life (plenary): At the end of the plenary meeting during which fellows presented their reality check, the chair allowed the presenters to express their ideas on the impact of the reality check on their personal development. Susana: great experience, especially the opportunity to see how the research institute works and integrates with the community. However, the experience also makes her doubt whether she would ever like to go into tropical research. Anali: “working with African men was difficult in the beginning”. Later it went well. Would like to have had more insight in cross cultural communication and group dynamics. Innocent: enabled “to improve manners with different cultures”. Siti: “great impact” got exposed to different cultures despite difficulties. Ibrahim: “Nothing new”, working in Uganda was very easy. Later on he explains that the finding that things were quite similar to Senegal was instructive (cf. HIC prevalence). Anthony: learned much from the “strict” research experiences, learned from different backgrounds. Joseph: “learned the impact of research on community. Horizontal working with European colleagues. African challenge, enough raw material, needs experts”. Thomas: “Learned a lot, also about African politics”. During personal meetings additional information was given. One fellow (EU) felt that the others did not do anything and felt like the tractor of the project and one such experience came out with an insight in “how not to do things”. Advice would be to streamline the Reality Check better and ask fellows to go for the global picture behind the assignments rather details.

C.4.5 - Deviations and Corrective Action Taken

None recorded, except that the twinning became more of triplets due to the African - European ration of 2:1.

C.4.6 – Use of Resources

The actual person/months claimed by beneficiaries on WP5 are summarised as follows:

WP5	UYI	GA	SU	AMC	ICGEB	CNR	MU	MPIIB	TDRC	MMRP	TOTAL
Planned total	3,0	0,7	1,7	6,0	1,0	2,0	2,5	1,7	2,5	3,0	24,1
Spent by M18	0,3	0,7	1,0	4,5	0,3	1,0	1,2	0,0	0,5	0,5	10
Spent by M45	1,5	0,0	1,7	1,0	0,7	0,1	2,0	0,5	0,59	2,5	10,59

C.5 - PUBLIC RELATIONS (WP 6)

Work package Leader - Ms. Katharina Kuss of Go Africa

C.5.1 - Introduction

The Objectives of this work package were to: Conduct awareness raising and Networking; Heighten visibility PRD College activities at Conferences and Seminars; Run a website and newsletter; Aim at creating an Alumni Programme. Specifically, the WP Leader in collaboration with all WP leaders did set to:

- Develop a manual on marketing and communication strategy
- Produce information material for the PRD College
- Populate the website regularly
- Submit abstracts and reports to the coordinator for international meetings
- Produce brochures and flyers for the PRD College
- Maintain a newsletter in the website
- Initiate new projects and set up strategies to raise funds for such projects
- Prepare an Alumni Network Constitutive Assembly report

C.5.2 - Awareness raising and Networking

In the first reporting period PRC College selected experts to constitute external and independent Advisory Boards, which assessed key activities and conducted an impact analysis of the PRD College.

One of the most efficient awareness raising strategies was the publication of the call for participation in PRD College. Various networks and consortia related to health research as well as PRD research institutions in Europe and Africa were identified and have disseminated information on the call, among those are: MIM, AMANET, INDEPTH, PABIN, and HEALTH-NCP-NET.

Awareness raising about PRD College also reached policy makers in Africa, Europe and in international panels. Some examples are:

- 1) PRD College was mentioned by the German Bundestag as a project contributing to the realisation of G8 Africa-Action plan agreed upon at the G8-Summit in Kananaskis in June 2002.
- 2) PRD College was introduced to the Ministry of Education in Uganda by Prof. Parker, which resulted in enforced research cooperation with Europe and the nomination of FP7 thematic National Contact Points (NCPs) in Uganda.
- 3) The Minister of Higher Education of Cameroon pledged to include this training as a Masters course in the University of Yaounde1
- 4) Presentation of the PRD College by a PRDC Fellow to his department in Nigeria

The main elements of the marketing strategy were developed and agreed upon at the Kick-off meeting, where the consortium agreed on key messages and its presentation to the wider public. Information material about PRD College was developed before the first training session and was disseminated there to all participants, facilitators and partners to promote PRD College at their home institutions.

- 5) The Minister of Higher Education of Cameroon pledged to include this training as a Masters course in the University of Yaoundé 1. The course has passed through Senate and adopted to start in September 2013
- 6) The PRD College was noticed by the Catholic University of Cameroon in Bamenda and asked to adopt its curriculum,

Deliverables supporting a successful implementation of this section are contained in Deliverable D6.1 - Manual on marketing and communication strategy and D6.2 - Information material. Flyers and brochures were produced that further explained the *raison d'être* of the PRD College. The main elements of the marketing strategy were developed and agreed upon at the Kick-off meeting, where the consortium agreed on key messages and its presentation to the wider public. Information material about PRD College was developed before the first training session and was disseminated there to all participants, facilitators and partners to promote PRD College at their

home institutions. These are contained in deliverable D6.5. An impact analysis of the PRD College was conducted the Fellows external and independent experts. The results were presented to the Consortium and the wider public at the American Society for Tropical Medicine and Hygiene (ASTMH)

C.5.3 -- Conferences and Seminars

After the first year, Fellows conducted an evaluation of impact of PRD College activities on themselves and whether they adhered to the same vision. The mentioned convening event The mentor-tutor teams from AMC and Cameroun UYI did attend the American Society for Tropical Medicine and Hygiene and [resented a poster and is contained in deliverable D6.4) It was pointed out that only very few graduates are going into research, some are becoming school teachers, medical doctors or employees in the field of medical technologies, agriculture or industry such as food processing. Scientific conferences and seminars were part of the educational programme and were attended by participants and consortium partners of PRD College. Especially PRD-fellows and their mentors were encouraged to use these conferences as an opportunity for building good public relations

C.5.4 - Deviations and Corrective Action Taken

Only the Information Material, Flyers and Brochures as well as the electronic Newsletters were periodically produced. However, there was a gap in informational material when the PRD College tried to recover the debt levied on her.

C.5.5 – Use of Resources

Person months spent on WP6 are claimed by the beneficiaries as follows:

WP6	UYI	GA	SU	AMC	ICGEB	CNR	MU	MPIIB	TDRC	MMRP	TOTAL
Planned total	3,0	4,1	1,7	1,6	1,6	1,7	3,2	1,1	3,7	1,1	22,8
Spent by M18	1,1	2,8	1,0	0,3	0,3	0,1	0,5	0,7	1,0	0,0	7,8
Spent by M45	1,5	1,6	1,7	0,5	0,8	0,4	2,2	1,0	0,35	1,1	11,15

It is important to mention that many networking activities and the promotion of PRD College to a wider research community was performed by the beneficiaries on various occasions with no direct costs to the project, because all consortium members serve on other boards or are members of networks related to health research.

C.6 - CONSORTIUM MANAGEMENT TASKS AND ACHIEVEMENTS

WP Leader, Wilfred Mbacham (Univrity of Yaounde I, Cameroon

C.6.1 – Introduction

This part covered the co-ordination of all co-operative activities. It included:

- Monitoring project planning and progress
- Ensuring that deadlines will be met
- Preparing deliverables
- Regular follow-up on the use of resources and budget
- Organizing project meetings
- Quality control
- Maintaining the documentation and quality plan

At the level of the work packages, these tasks were fulfilled by the work package leaders, while the co-ordinator was responsible for the overall oversight and quality control of these issues at the project level. The co-ordinator prepared the reports for the Commission according to the inputs of the work package leaders and the partners involved. The work package was to ensure the execution of the project in conformity with the Commission contract and the Consortium Agreement to negotiate any necessary changes to these agreements during the project and to manage risk and perform continence planning and quality control so that the project financial

administration and reporting was ensured. Risk analysis was also an important element of the project management. Potential problems or delay were identified and subsequently corrective measures taken and contingency strategies work executed.

The following results were realised:

- The Kick Off Meeting was successfully executed. The Minister of Higher Education of Cameroon gave his support for this course to be integrated into the University Curriculum.
- The Hand book is done
- The Consortium Agreement is being circulated for signature
- Work Package Leaders reports have been received and submitted.
- The First Consortium Meeting was held in Kampala Uganda during the BEEP Training Session and report circulated.
- The second consortium meeting was held in Cape Town, RSA in Dec 4th
- The Internal and External Advisory Boards have been formed and are functional
- The Basic Elective Educational Programme was carried out successfully in Kampala Uganda
- The Advanced Elective Educational Programme was successfully carried out at the ICGEB, Cape Town from Nov 29 - Dec 17, 2010
- The Third consortium meeting was held in Cameroon in August 10, 2011
- The Internal and External Advisory Boards were formed and are functional
- The Reality Check was conducted in Africa by 22 PRD College Fellows
- The Mandatory Education Programme was successfully held in Cameroon
- The debt inflicted on the PRD College at UYI by the European Commission was recovered from the government as a repay.
- The Science Exchange Programme was successful complete by 13 African fellows in Europe
- The Outlook Meeting successfully took place in Sienna Italy in March 2013

c.6.2 - Management Structure

The proposed structure aimed at ensuring that the PRD College was well monitored to provide maximum benefit to the scientists. This allowed the PRD College to be evaluated for its performance. Communication was principally by electronic means to minimise costs. The PRD College did comprise 6 WP Leaders and committees internal to the consortium

Internal Advisory Board Members (BTC-UY1)

NAME	INSTITUTION
Prof. Guy TSALA	Vice Rector for Research Cooperation and Relations with the Business World
Prof. Rose LEKE	Director, Biotechnology Centre UY1
Prof. Alfred NJAMSHI	Faculty of Medicine and Biomedical Sciences
Prof Paul Koki	Director Chantal Biya Foundation, Mother and Child Centre
Pr Barthelemy NYASSE	MINISTRY OF HIGHER EDUCATION
Prof. François-Xavier ETOA	FACULTRY OF SCIENCE, UY1

These members had as terms of reference to ensure that the acquisition for the PRD College concept was properly done should an Africa university desire to adopt it, with the University of Yaoundé as the pilot program

External Advisory Board (EAB): The proposal stipulated that the EAB was constituted of top level scientists drawn from 6 well represented African and European institutions, to cover the various interest areas of the College. They helped the PRD College gain visibility, advise on matters of IPR and ethics and the management of new avenues for funding. The advisory board was part of the updating and revision of the curriculum. Members of the executive committee participated as invited members to provide guidance on intended programmes. The Advisory Board was able to identify important matters of training and resources necessitating a

specific action to be taken to promote and facilitate PRD development-related activities. These were particularly seen by the contributions of the EDCTP and WHO members of the board. The EAB advised on adherence to procedures and suggested new public relations contacts and other aspects of the PRD College and did bring visibility of the PRD College to the European and African communities in collaboration with leader of WP6; The EAB assisted the PRD College to liaise with the MIM and other regional and development initiatives and make recommendations for change of directions ; The External Advisory Board have now met twice first as a partial group in Kampala and then in Cape town on the occasion of the consortium meeting and their report will be communicated.

The following experts were retained as EAB members following the first consortium meeting in Kampala. They met at all the training sessions and at the Outlook meeting

NAME	INSTITUTION
Pr. CARMEN FERNANDEZ	Stockholm University, SWEDEN
Dr. OGUNDAHUNSI OLUMIDE	World Health Organisation/TDR, GENEVA
Dr. M. MAKANGA	EDCTP, SOUTH AFRICA
Pr. BOB COLEBUNDERS	Institute for Tropical Medicine, Antwerp, BELGIUM
Pr. GUY TSALA	University of Yaounde I, CAMEROON
Dr. STEVEN SMITS	Malaria No More HOLLAND

C.6.3 – Committees

Executive Committee (EC): The members of the executive committee were proposed to serve for the period of the grant. Decision making was by 2/3 majority or by consensus. These decisions to the best of the abilities of the executive committee members were judged to be true and good for the good of the consortium. The executive committee did plan, manage, defined and modified directions to meet with the aspirations of the consortium and on advice from the EAB. It took responsibility for facilitating the tasks of the work package leaders and committee heads and did so to the satisfaction of the WP leaders. The executive committee members were non-voting members of the Advisory Board. The Executive Committee did comprise of 6 persons namely; Coordinator – Pr. Wilfred Mbacham; European Scientist – Pr. Marita Troye-Blomberg; African Scientist – Pr. Iqbal Parker; Expert Oversight and Fellowships Committee - Pr. Stefan Kaufmann was replaced by Diana Boraschi because she was a WP leader; Development Officer – Dr. Peter de Vries; Project Manager- Ms. Katharina Kuss. **Expert Oversight and Fellowship Committee (EOFC)**, was chaired by Dr Dian Boraschi and assisted by Pr. Fred Kironde; The EOFC did oversee the quality of the scientific content of the curriculum. In collaboration with Work package leaders in WP2, WP3, WP4 were responsible for setting criteria and procedures for the selection of candidates. They were responsible for the scientific review of proposals for placement in laboratories. The **Marketing, Communication and Grants Committee**; was chaired by Katharina Kuss and assisted by Modest Mulenga; The MCGC was responsible for the development of the editorial policy of the newsletter and for developing and checking instruments for effective communication within and out of the PRD College and for the identification of new funding mechanisms and additional sources of funds. **Quality Assurance Monitoring (QAM)** was co-chaired by Dr. Diana Boraschi and Pr. Iqbal Parker: They did set up a programme for monitoring and evaluating adherence to procedures within the college; They were responsible for tracking progress of the PRD College; They were responsible for setting up system for ensuring that controls, checks and balances are dealt with in the curriculum, experiments and training sessions; They were responsible for setting up a programme for risk management with all programmes; The QAM did organise sessions during the trainings on good laboratory practice, good public health practice and good clinical practice in collaboration with WPLs.

c.6.4 - Legal Matters

A Consortium Agreement (CA) between the partners was arrived at and included explicit procedures for conflict resolution between partners. The internal decision processes was outlined in detail .The roles and responsibilities were clearly defined in the work packages and in this section it required that members within the consortium work in a collegiate manner respecting the rights and contributions of each other. All documents so developed were strictly confidential and only released according to the agreed plan

C.6.5 - the Kick Off Meeting 17th - 18th of August 2009

The Kick-off meeting of the PRD College took place on the 17th and 18th of August 2009 at the University of Yaounde 1, in Cameroon. This two day meeting was attended on the first day by Wilfred Mbacham (Cameroon), Katharina Kuss (Germany), Iqbal Parker (South Africa), Marita Troye-Blomberg (Sweden), Carmen Maria Fernandez (collaborator of Prof Troye-Blomberg (Sweden), Diana Boraschi (Italy), Peter De Vries (Holland) and Tima Haddison (Cameroon). Emmanuel Kafwembe (Zambia), Leonard Maboko (Tanzania) and Fred Kironde (Uganda), who had been delayed at Nairobi airport due to Kenya Airway workers strike, joined the next day. Prof. Stefan Kaufman earlier had excused himself to be unavoidably absent. All major decisions arrived at on day 1 were re-tabled and jointly agreed.

The Launching Ceremony – August 17, 2009

The official launching of the PRD College took place on 17th August at 12.30 pm. It was placed under the joint patronage of the Ministers of Public Health and Higher Education. Speeches were given by the coordinator of the PRD College, Wilfred Mbacham, a representative of the Ambassador from the European Commission and the Rector of University of Yaounde 1, Prof Oumarou Bouba representing the ministers. The event was also attended by the Inspector General of the Ministry of Scientific Research and Innovations Dr. Lucie Biyiti and by the Technical Adviser to the Prime Minister on Higher Education, Pr. X-F Etoa as well as the representative of the Country Director of the World Health Organisation. The Rector of the University

C.6.6 – The First Consortium Meeting – Kampala, Uganda – 16 April 2010

The meeting started with a word of welcome by Wilfred Mbacham, the Coordinator of the College who expressed his pleasure in being alive and able once more to coordinate another meeting after the Kick Off Meeting in August 2009 in Yaoundé. Before going fully into the matter of the house, he sought the approval of the house to include non members of the Consortium to attend Consortium meetings as Advisers. These were: Carmen Fernandez, Steven Smits and Robert Colebunder. There was general approval. It was also approved that Laura Lozza will be the representative of Max Plank in the absence of Prof Stefan Kaufmann. After a long deliberation, the Consortium came to the following resolutions according to WORK PACKAGES: Memorandums Of Understanding (MOU) will be signed with non Consortium member Institutes who had students attending the training or receiving PRD College students for reality checks or the science exchange programme. Iqbal will send the final version to Wilfred by Mid May. Consortium Agreement is still to be signed with the UY1, final version will be sent by the Coordinator by the end of May 2010. UY1 will write to Partner Institutions a letter of acknowledgement for the participation of students in PRD College. Time lines were re-discussed and financial matter clarified. External Advisory Board members would also be part of the facilitators for the training and would reduce expenses. Prof Emmanuel Kafwembe, TDRC, Zambia took ill and could not attend. Actions point were arrived at with details of that people had to accomplish

ACTION POINTS FOR CONSORTIUM MEMBERS

	Action	Responsible	Dateline
1.	Consortium Agreement	Wilfred	30 June
2.	Letter to partner institutions acknowledging participation of their students in the course	Wilfred	30 June
3.	Invitation letter to External AB Nominees	Wilfred	30 June

4.	Invitation to EAB Members to teach in SA	Wilfred	30 June
5	Curriculum for SA training	Marita, Iqbal	30 June
6	Tool box development	Marita, Laura, Fred	30 June
7	MOU with non consortium partners	Iqbal	30 June
8	Accreditation from MIM	Wilfred, Peter	30 June
9	Template for payment to hosting institutions for Science exchange	Peter, Diana, Wilfred, KK	30 June
10	Guidelines for Reality Check	Peter	30 June
11	Work Package Leaders reports	Wilfred	30 June
12	Application for Marie Curie call	Diana	30 June
13	Handbook	Wilfred	30 June
14	Training Manual	Wilfred	30 June
15	Request for formal European Vaccinating Initiative	Wilfred, Diana, Marita	30 June
16	Inform Ana Nieto of change in deliverables, i.e. change in twinning	Wilfred	30 June

C.6.7 - Second Consortium meeting - Cape Town, South Africa dEC , 2010

The meeting started with a word of welcome by Wilfred Mbacham, the Coordinator of PRD College. He explained that the Work package on Reality Check can not be covered at this meeting, but will be explained by Peter de Vries during the week after. The consortium approved the proposed agenda and also the participation of Maria Kersten as assistant to Katharina Kuss. The consortium agreement was good and had been reviewed in its entirety by each consortium partner institution. However, the Max Planck Institute had concerns with a clause and will change the paragraphs on pre-existing knowledge and property protection. The Consortium Agreement should be signed by all parties by end of January 2011.

C.6.8 - Third Consortium Meeting of 10th August 2011, Yaoundé, Cameroon

The coordinator welcomed everyone and gave the excuses and greetings of those who were absent. He further announced the success of two of the fellows at their PhD thesis defence: Anthony Kibera and Nicholas Midzi. An update demonstrated that 103 lectures were programmed to be delivered during the MEP Training in Yaoundé. Therefore 23 out of the 24 students were present – Fabienne Paasch withdrew from the college due to incompatibility with her PhD programme and was replaced by Chanda Mulenga from Zambia. The Work package Leader had two major issues to present: debt recovery by the EU on the University of Yaoundé I, which has affected the College negatively, and certification of students.

C.6.9 – Unjust Debt recovery from PRD College

Prof. Mbacham presented the state of the debt recovery measures taken by the EU. He said that UYI has met with the EU Delegation in Cameroon together with Dr. Ana Nieto to seek out ways to solve this debt recovery issue. The minutes and letters to the EU Delegation are attached as the Appendix 2. He added that it will be impossible to perform the Science Exchange programme if the EU does not transfer the remaining funds.

WAY FORWARD: Two different scenarios were looked into, *i.e.*, premature closure of the PRD College, and extension of the project without additional costs (if the possibility of receiving the funds is solid and only time for fulfilling the procedure will be required). Prof. Mbacham was optimistic that things will ease up in light of the documentation received from the EU, which explained the genesis of the problem. To inquiries on why the responsible person of this problem is not being held to pay back the debt that EU incurred on the UYI, Prof. Mbacham reported that this individual is willing to do so and has even proposed that if the EU cannot accept the justification presented then he will look for alternative means to refund it. Members expressed consternation at

the fact that the PRD College was not informed of this circumstance during the signing of the grant. It was noted that even in the EU DG Research it was unknown and unexpected.

C.6.10 - An Extraordinary Meeting of the Consortium Dec 2011

Held in December 2011 to make adjustments following the difficulties the University of Yaoundé I was facing with the non-payment of debt recovery that hit her. During that meeting an update was presented of the negotiations with the EU Commission regarding the UYI debt recovery on the PRD College first payment. The second point on the agenda was the reallocation of resources and distribution of first payment. Thirdly there was the revision of the PRD College coordination structure and fourth the project extension and re-scheduling of milestones/deliverables reporting timetable was made. All partners were asked to agree by a YES or disagreeing by a NO with the proposed items table which are listed below. Votes were expected by email and concluded by December 20. All members voted by a yes to all propositions except on proposition 4 where GA felt her money needed to be moved to CNR. 1.Members confirmed to the decision of continuing the PRD College project despite the financial problem incurred, 2.Members confirmed their agreement in prolonging the duration of PRD College until the end of 2012, to allow the completion of the Science Exchange and of the final project activities, 3. Members confirmed to the proposed plan for reallocation of resources, 4. Specifically, they confirmed their agreement in implementing the decision taken by the Consortium in Yaoundé of re-allocating resources from GA to UYI, aiming at improving managerial effectiveness. Details of the decision to recalculate the budget was done and are contained in Appendix 2 – Minutes of the Extraordinary Meeting

C.6.11 - The Outlook Meeting and Follow up Meeting – Sienna March 2013

Preparation of the Outlook and Follow-up Meeting consisted of invitation of project partners, provision of agenda and technical arrangements. It consisted of organization of final meeting (with student's project and data presentations) as well as establishing links with Alumni and Networking.

The meeting took place from in Sienna with 8 out of 10 consortium partners present. Those who were absent with excuses were AMC with Dr. Peter de Vries (patient load and a new location), and who asked that he be represented by an Advisor who presented his work package report (Steven Smits) and Go Africa who due to a conflict in schedules could not make it. As of the project end date Month 45 March 2013, all project partners completed their modules and work load. A management report was presented and

Resolutions of the Outlook Meeting: In the outlook meeting of the PRD College members that held in Siena Italy as the completion point of the PRD College activities, the following members there present resolved as follows:

1. The Consortium will write a letter of appreciation to the past and present authorities of the University of Yaoundé I for the efforts made towards the recovery of the debt and in designing projects that fostered the ideals of the College namely the CORD-UYI, the Masters Program in Public Health Biotechnology and the winning of the AFIMEGQ intra-ACP mobility Grant.
2. The lectures be made available for the Fellows who are now teachers at the home universities to use in teaching.
3. The UYI should accept the PRD College Fellows who wish to pursue the Masters program in Public Health Biotechnology an offshoot of the PRD College. They will be accepted to complete the requirements to do the course by correspondence as per the evaluation of their files and performance record from the PRD college.
4. The Fellows who were part of the PRD College should be awarded certificates of participation pending the depositing of the performance evaluation with the University of Yaoundé I for a Certificate of Performance or completion to be issued by the Rector of the University of Yaoundé I.
5. The UYI is authorized to share information and course content from the PRD College as well as structure of the module with other universities wishing to start similar program.
6. The members of the consortium will accompany the University of Yaoundé I in her mission to make the PRD courses online, her mentorship program and other academic consultations. In this light the

Coordinator should approach Prof Marita Troye-Blomberg to understand and draw lessons from the restructuring of the departments at the Stockholm University in Molecular Biosciences in a bit to assist a similar process at the University of Yaoundé I.

7. To accept the management and finance report presented and ask that Wilfred Mbacham ensures the final report and audits be completed within the time frame of March 2013.
8. To fund the Fellow proposal development initiative for a total amount up to 45000 Euros.
9. The Fellows are encouraged to approach the assigned Consortium members to fine-tune and re-submit against a deadline of the March 15. Evaluations will be done by March 18 and transfers to be done by March 20, against an invoice endorsed by the assigned consortium member. All activities will be followed up by the assigned consortium members and must be executed by May 15. Where groups have proposed two projects, these should be merged into one or one chosen.
10. The Coordinator of PRD should write a letter of encouragement to Katharina KUSS to let her be involved with the completion and reporting of the PRD College.

C.6.12 - Resources and Risk Management

The budget breakdown and overviews of staff effort broken down to work package level in section 1.3.5 shows the planned man months beneficiary and work package. The resources and budget foreseen for the management of the project amounts to 23,2 person-months, whereby 13 pm are planned for the co-ordinator, 6 mm for the Project Manager and 0,5 mm for all other beneficiaries. The resources needed to carry out the project mainly personnel of the beneficiaries and their equipment. The excess person months was as a result of the resolution for many months of the debt crisis

WP1	UYI	GA	SU	AMC	ICGEB	CNR	MU	MPIIB	TDRC	MMRP	TOTAL
Planned total	13,0	5,1	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	18,1
Spent by M18	7,5	3,9	0,5	1,0	0,2	0,3	0,3	0,2	0,2	0,3	14,4
Spent by M45	13,6	1,65	0,0	0,5	0,3	1,5	0,3	3,0	0,09	0,2	21,14

C.6.13 – Milestones Table

At the closure of the PRD College 41 Deliverables and 7 Milestones were accomplished

MILESTONES – ALL REPORTING PERIODS							
Milestone no.	Milestone name	WP	Lead beneficiary	DD Annex I	Achieved Yes/No	Actual Achievement Date	Comments
1	Kick of Meeting and consortium Agreement	1	UYI	4	YES	3	Contracts, Work plan, Meeting Report
2	Identification of facilitators and other Participating Institutions	1 & 3	ICGEB	6	YES	9	List of Fellows List of Institutions MOU with Institutions
3	Curriculum Development and Institutional Strengthening	1 & 2	ICGEB	12	YES	18	Training Manual Meeting Reports
4	Training of students at PRD Centres	1 & 3	SU	21	YES	21	3 Workshop Reports
5	Establishment of Mentorship programme and Science Exchange Proposal review	1 & 4	CNR	21	YES	21	Mentorship Manual Review report

6	Reality Check	1 & 5	AMC	24	YES	24	MOU with Institutions Reality Check Internship Reports
7	Science Exchange Programme	1 & 4	CNR	45	YES	45	Results & Manuscripts from Projects and Science Exchange Reports

D - POTENTIAL IMPACT OF THE PRD COLLEGE

D.1- INTRODUCTION

We have achieved this goal of capacity building within research and university institutions by training the next generation of scientists and strengthening inter-institutional ties. We initially planned to recruit 12 African and 12 European post-doctoral scientists to enter the PRD College, but eventually recruited 16 Africans and 8 Europeans. At the end the PRD College fellows were 23, 17 Africans and 6 Europeans, because two European fellows had to leave the programme due to the lack of support from their institutes. In light of this another African fellow was recruited to replace them.

Both African and European trainers forge mutually beneficial collaborations for future programmes. The goal of enabling young scientists to increase their scientific knowledge and have practical experience through hands-on experimental work, placement in developing world research institutions, non-governmental organisations and policy forums, media and communication houses or disease control programmes of the Ministries of Health and Research. This placement aspect of the PRD College activities significantly contributed to the creation of a new generation of highly motivated PRD scientists with enhanced career prospects.

The training received within the PRD College did increase and deepened knowledge of biological processes (technology) in PRD, during the training-in-context examining the African milieu, where perceptions were understood of disease considering possible interventions (drugs and vaccines). Because much of learning is done out of the classroom, the knowledge and experience exchanged between young European and African scientists during their exposure to the real life situation ensured that their further research on PRD would cover topics relevant to public health and policy makers. The integration of expertise from different disciplines was essential in this area.

By the offered internships at European and African research institutions the project aimed at promoting and inducing interest in PRD research at an early stage and this interest has eventually been the major driving force in the future research careers of the participants. The PRD College programme is aware of migration and brain drain problem and its damaging consequences to the advancement of research in Africa. We are pleased to state here that all the fellows trained from African have stayed in Africa and have had university career positions. New skills have been transferred and the PRD College achievements represents a strong basis for future sustained scientific collaboration through the Mentorship Programme.

To ensure that African scientists will be able to contribute to relevant research for the development of the African nations, the PRD College did fund small project re-entry grants in a manner that allowed the groups of African and European fellows to forge synergies and thereby encouraged to seek for funds together.

D.2 - ADOPTION OF CURRICULUM BY THE AFRICAN UNIVERSITIES

Another objective of the PRD College was to strengthen the capacities of institutions through lectures and courses organised at this PRD Centre. Institutions were to be further strengthened by the fellows attendance of the Reality Checks and Science Exchange programmes, respectively, which happen in selected African centres

and European/USA institutions (see WP4 and WP5). In addition UYI was to prepare and transform the modules into degree awarding programs. In the course of the second period (from January 1st 2011 to March 31st, 2013), the following has been achieved:

- A fully developed Module on Soft Skills was been developed at the University of Yaoundé I and full recognised by the authorities at the Senate as part of a masters program;
- This development has resulted in the installation of a graduate programme in Public Health Biotechnology and Food Safety as part of the Graduate School in Biotechnology and Life Sciences;
- A programme in Health Economics, Policy and Management was initiated created at the Catholic University of Cameroon, Bamenda and adopted the Soft skills Modules

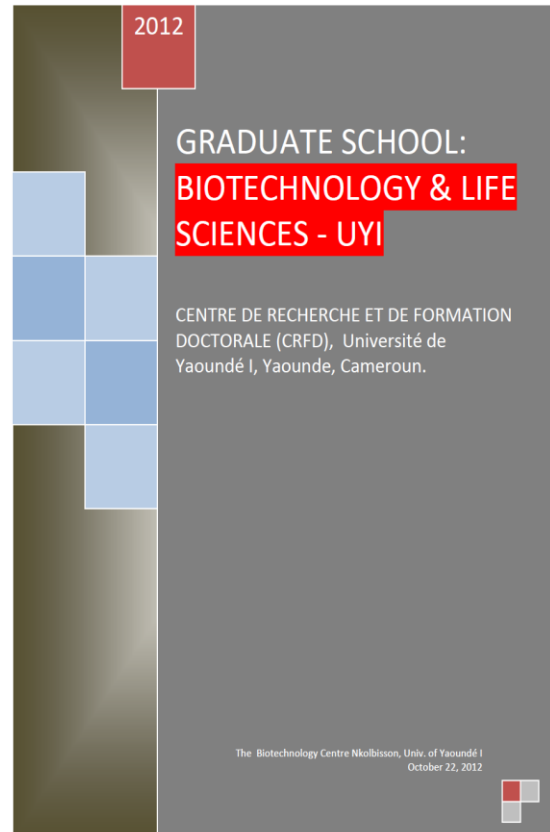
A GRADUATE PROGRAM; HEALTH ECONOMICS, POLICY & MANAGEMENT

Masters and PhD

A graduate program of the Catholic
University of Cameroon, Bamenda



Project Partners
Catholic University of
Cameroon, Bamenda
Crighton University
Nebraska, USA
University of Yaounde
I, Cameroon



D.3 - A COORDINATION OFFICE FOR RESEARCH AND DEVELOPMENT (CORD-UYI)

The CORD-UYI at the University of Yaoundé I was established to assist the university in

- Grant Administration
- Grant/Funds Searches and Proposal Development
- Career Recycling- Continuing Education
- Science Development Plan
- Research Uptake

This office was placed since 2011 under the stewardship of the PRD College and was a much greeted innovation from the European Commission Delegation in Yaounde I given the difficulties it faced.

D.4 - THE WINNING OF AN INTRA ACP EU-AU GRANT – 2 MILLION EUROS

The CORD-UYI coordinated activities and won its first major grant of 2,000,000 Euros from the Intra ACP Mwalimu Nyerere Scholarships for intra ACP mobility of some 101 graduate students (Masters and PhD) of Africa. The project named AFIMEGQ is the acronym for Africa for Innovation, Mobility, Exchanges, Globalization and Quality - www.afimegg.org



D.5 - A POSTERIORI EVALUATION OF THE COLLEGE FOR IMPACT

The results herein demonstrate that the programme was highly appreciated and successful as per the responses to questions generated by fellows to fellows. As to what was the motivation to for applying to the PRDC 68% said it was for career development, 47% said it was for Personal enrichment and 42% to building collaboration and stay in foreign institutions. As to what the fellows achieved during their stay during the PRDC some 89% said they were personally enriched and another 74% they improved intercultural collaborative skills. And yet others said (68%) said they established new collaborative projects and saw the possibility of future collaborations

Many did say the PRD college achievements met their expectations by 63% in many aspects with a degree of satisfaction with the PRDC in general 8 (Min: 4, Max: 10; $10\% \leq 5$). In other comments: They fellows expressed that they got personal enrichment, exposed by exposed to many cultures, possibilities of collaboration, got skills, travelling, met people. However others express that she lost time, unuseful for her career, bad logistic, timeframe, no collaboration an was unclear what the programs wanted with no possibility of leading her career advancement

Evaluation of the Basic education Elective programme in KAMPALA demonstrated that the fellows were personally enriched by 74% and 68% improved their intercultural collaborative skills and 47% improved personal skills. These answers were given by a degree of satisfaction for this module of 7/10 with a min: 2 and a max of 10; $10\% \leq 5$). Positive comments were that it was very interesting, gained knowledge, working in group however one person felt it was too intensive, stressful, passive, lack of clarity on management and administration.

Evaluation of the Advanced Education Elective Programme in CAPE TOWN demonstrated that achievements during this module exposed many to the state of the art laboratories by 63% with exposure to more advanced technologies. Some 63% responded having acquired new technical knowledge or skills with a degree of satisfaction of 7/10 (Min: 1, Max: 10; $26\% \leq 5$). The overall comments were that the course was practical and informative on new technologies, not boring. One fellow expressed the fact that there was limited time, too much focus on immunology, frustrating and badly organized.

Evaluating the Mandatory Educational Programme in YAOUNDÉ demonstrated that achievements during this module were met by 79% of improved personal skills. Some 68% got personal enrichment and 68% improved on intercultural collaborative skills. The degree of satisfaction was 7 (Min: 4, Max: 9; $16\% \leq 5$). Overall comments was that these were good topics and group activities, gained soft skills enhancing job performance and career prospects. On fellow felt it was boring and too long.

The evaluation of the Reality Check demonstrated that the achievement of the objectives were met by 79% who got personal enrichment. Some 68% improved their intercultural collaborative skills and 47% improved on their personal skills with the degree of satisfaction of 8 (Min: 2, Max: 10; $10\% \leq 5$). The comments were that it was funny, exciting, exposed to reality, interaction with locals, working in group, refocused beyond lab experience, personal involvement. Other comments focussed on the fact that Fellows were left to themselves, not well organized, no tools, not much freedom, too administrative issues, limited time, not so useful.

The Science exchange was evaluated as being useful in acquiring new technical knowledge or skills by 78%. This same proportion established new collaborative projects or I see the possibility of future collaborations (78%). Some 67% were exposed to lab with more advanced technologies and this helped in homing in some concepts with a degree of satisfaction of 9 (Min: 3, Max: 10; 11%≤5). Overall the comments were that this exercise had a good impact on professional life, created new networks and collaborations.

To conclude the fellows were asked if they would apply again to the PRD to which they responded resoundingly with a yes because of the unique life experience, for the enrichment in knowledge and skills, and the possibility of future collaborations

D.6 - EVALUTION OF THE MENTORS BY THE STUDENTS

Motivation to be partner was to build capacity collaborate and personally enrich ones knowledge . These were met respectively by 66%, 66% and 50%. Most of mentors realize how is difficult building collaboration with people with different

Achievements of meeting with expectations of the PRDC were many (66%)and onethird said scompletely and were satisfied by a score of 8/10 (min: 7, max: 10). Despite all the problems that they met during this experience, everything went well but can be done better!!!!

If members would wish to start all over again and could go back in the past, members would want to be consortium partners of the same PRD College project to which all said 100% Yes because of the personal enrichment, good working experience, met interesting people. If you could write a new grant, members would want to be a consortium member of a similar project because of the personal enrichment, good working experience, met interesting people....but above all to improve on the project! In the realization of the goals 66% said {PRD did and 34% said not completely emphasising that lessons didn't cover all the topics, financial issues; some fellows didn't do the Science Exchange

Mentors assessed the BEEP course as improving on their intercultural collaborative skills by 66% and 50% established new collaborative projects or saw the possibility of future collaborations. Half had broadened the scope of their research and refocused their motivation with a high degree of satisfaction of 9 (Min: 8, Max: 10). They met scientists who did not think only of personal careers. They improve intercultural communications, different disciplines very instructive but also felt there was more of immunology, little about pathogen biology and non-infectious biology.

About the ADEEP Course in South Africa half oteh partners improved my intercultural collaborative skills and 33% established new collaborative projects. One third broadened the scope of their research and refocused their motivation with a degree of personal satisfaction of 8 (Min: 6, Max: 10). The course was useful to understand fellows' character and there were difficulties to bring all the fellows to the same level of preparation. Some students were not interested in following the lessons.

The Soft skills course in Yaounde half responded as having improved my intercultural collaborative skills and personal enrichment with degree of satisfaction of 9, 3 (Min: 8, Max: 10) having learnt a lot from other teachers; improvement in relationship with fellows since Kampala despite the financial problems created distractions.

The Partners evaluated the Reality Check as being minimally establishing new collaborative project by 17% or that it improved in collaborative or personal skills by 17% respectively. They were happy with the module by a score of 9 (Min: 7, Max: 10). Overall - the PRD college experience was one that allowed the fellows to see the realities with disease and how populations live.

The Science Exchange was evaluated to be have improved improved intercultural collaborative skills by 33% and some acquired new technical knowledge or skills (17%) and a8/10 degree of satisfaction (Min: 7, Max: 10).

Consortium partners felt this SE brought the fellows a life experience in a different country with a different culture however some fellows did not come onto the science exchange

D.7 - CONTINUATION OF THE PROGRAMME AT HOME INSTITUTIONS OF THE FELLOWS

This task ensured that trained African scientists were increasingly involved in teaching at their host institutions sharing their newly acquired knowledge with their fellow scientists and senior researchers.

- First, there is the responsibility of the participating African Institutions to offer a position as scientific staff member to graduated fellows (alumni) that they had suggested as PRD College fellows.

- In many instances many have had the occasion to be recruited at their home institutions (Deliverable D4.5 – Report Continuation at Home Institutions). Second, there is the responsibility of the alumni and their institutions to look for external funds. This was achieved by following up the Fellows in small grant projects to develop ideas together.

- The content of the PRD College courses have been made in a ready-on-the-net format. Efforts were pursued to have this curriculum integrated into the Universities (Deliverable - D4.5).

Actions for implementing PRDC research continuation at home institutions started during the period of internship of African fellows in laboratories in Europe and USA, as follows:

1. email exchanges between fellows and between fellows and PRDC mentors, to start identifying discussion issues and relevant actions;
2. Face-to-face preparatory meeting in Pisa of a group of fellows, drafting of evaluation questionnaires and of a call for proposals, shared and discussed via Skype with fellows in Stockholm and in USA;
3. Conduction of the survey and completion of the questionnaires;
4. Presentation of the survey results at the Outlook meeting (Task 1.7, D1.11);
5. Organisation of a contest among fellows for getting seed funds to allow them to prepare joint research funding proposals to funding agencies;
6. Proposal presentation by fellows at the Outlook Meeting;
7. Proposal evaluation and selection by the Evaluation Committee;
8. Granting seed money to the best proposals.

D.8 - EARLY COLLABORATIONS

The **Pisa meeting** was held on January 28-29, 2013 in the CNR premises. Thirteen fellows participated to the meeting, seven were physically meeting in Pisa (Innocent Ali, Valeria Ciancarella, Anali Conesa, Paola Giungato, Chibueze Ihekwereme, Susana Monge, Anthony Nyamache), four were participating through Skype discussions (Joseph Fokam and Christian Gwom from USA; Maiga Bakary, and Mariama Cherif from Stockholm), and two additional fellows re-discussed the issues in Stockholm and participated to the general discussion (Thomas Dorlo and Daniel Amoako). The summary of the meeting outcomes is attached (Annex A Preparatory Meeting outcomes).

A questionnaire was prepared by the fellows for a survey among fellows and mentors about the PRDC project (initial expectations, conduction of activities, final outcomes and achievements). The results of the survey were evaluated by the fellows and presented during the Outlook Meeting by Paola Giungato, showing an overall satisfaction but also highlighting the issues that could be improved

The text of an internal call for initial seed funding was prepared by the fellows during the Pisa meeting. The PRDC Coordinator, in agreement with the WP4 leader, acknowledged that, given the saving of PRDC funds due to the forced limitations to the Science Exchange activities, a sum of about 42,000 € was still available that could be used for supporting the development of fellows' research activities in their home countries. The possible allocation of these funds to such development activities within the Task 4.5 was approved by the EU officer. Consequently, along the instructions in the call text, fellows prepared a request for initial funding for allowing them to meet and prepare a full scientific proposal to be submitted to funding agencies. The scope was double, improving collaboration among fellows in Europe and Africa, and take the important challenge of seeking

research funds. This would immediately give fellows the opportunity to put in practice many of the information and skills they had received during the PRDC courses.

An Evaluation Committee was appointed, formed by Wilfred Mbacham, Marita Troye Blomberg, Diana Boraschi, Carmen Fernandez, Steven Smits, and Iqbal Parker. Nine proposals were received by the Evaluation Committee and presented in public by the fellows underlined:

1. **Interethnic characterization of allergic type inflammatory responses of dendritic cells during malaria infection.**
Innocent Ali, Paola Giungato (in collaboration with partners CNR and ICGEB)
2. **Blood monocytes in contact with epithelial cells under conditions of carcinogenic stress: phenotypic and functional characterization.**
Paola Giungato, Innocent Ali, partner ICGEB (In collaboration with partners UYI and CNR)
3. **Identifying challenges in utilizing research findings in practice/and policy.**
Dylo Pemba, Fatuma Namusoke, Ibrahim Hassan Garba, Chanda Mulenga
4. **Defining markers to distinguish acute from latent TB patients and risk of TB reactivation.** Ibrahim Hassan Garba, partner MPIIB (Laura Lozza)
5. **Determinants of the evolution and dynamics of HIV-1 drug resistance patterns among children in Cameroon, a country with a generalized HIV epidemiology and high genetic diversity.**
Joseph Fokam, Susana Monge, Christian Gwom
6. **Characterization of adherence to antiretroviral therapy, and its relation to treatment failure and emerging HIV-1 drug resistance mutations among patients on antiretroviral treatment in Tanzania.**
Susana Monge, Joseph Fokam (in collaboration with partner MMRP)
7. **Leishmaniasis in the Sudanese Fulani: susceptibility, malaria coinfection, immunogenetics and treatment responses.**
Thomas Dorlo, Maiga Bakary, Daniel Amoako, Mariama Cherif (in collaboration with partner SU)
8. **Role of parasitic agents in cancer initiation, maintenance and pathology.**
Benson Nyambega, Nicholas Midzi, Partners ICGEB and UYI
9. **Pharmacogenomics and Predictors of Antiretroviral Treatment Responses in Africa.** Anthony Nyamache, Chibueze Ihekwereme, Innocent Ali

Proposals were extensively discussed during the public session at the Outlook meeting, and presenting fellows were intensely challenged by mentors and scientists. The Evaluation Committee suggested the proposals 1 and 2 to be merged, since largely overlapping. Eventually, eight proposals underwent evaluation proposed by partner CNR and adopted by the Evaluation Committee:

1. Scientific soundness (weight 30%)
2. Project planning (weight 30%)
3. Budget (weight 30%)
4. Request to PRDC (weight 10%)

The evaluation form used by the Evaluation Committee for expressing their assessment resulted in proposal 4 that was retracted, due to the lack of formal support by MPIIB. The final score of the seven proposals by the Evaluation Committee agreed on the following allocation:

- The proposal by Nyambega (n. 8 in the list above) should not receive funding as it is scientifically insufficient;
- The three best proposals (n. 5, 6 and 7 in the list above) are granted the funds requested plus a special "Career Development Award" of 3000 € each, in order to allow fellows to thoroughly implement, through multiple meetings and exchanges, a high-level project proposal;
- Proposals n. 1 and n. 9 in the list above are granted 4500 € each;
- Proposal n. 3 in the list above, based on a good idea but suffering of incompleteness in the presentation, is awarded an encouragement grant of 3000 €.

D.9 - PROFESSIONAL GROWTH OF THE FELLOWS

There has been an enormous out pour of success of the fellows where more had since graduated as PhDs and taken up teaching positions at the home institutions or head national reference labs. These are demonstrated by

the work-in-progress listed below. A total count of 12 out of 22 fellows belong to institutions of Higher Education or head national reference laboratories. In addition 11 of the fellows got or will get their PhDs in year 2013

Mr. Ali Innocent Mbuli: Ali innocent is in the final phases of his PhD which is now being peer reviewed. He has been recruited as an Assistant Lecturer at the University of Dschang Cameroon and continues to work as a researcher at the Biotechnology Centre, of the University of Yaounde I. The skills gained helps him both in a managerial and supervisory capacity both at the Lab and in the MIM Office. Hoping to do a Post-Doc in collaboration with South African, European or American partners

Valeria Ciancarella: Is in pursuit of her PhD since November 2009 - February 2013. As a PhD student in the School in Developmental and Cell Biology of the University La Sapienza, Rome and did defend her thesis in February 2013.

Paola Giungato: A PhD candidate, she hopes to defend her PhD thesis in October 2013 and currently her research interest is to "Simulate inflammation using an *in vitro* model Hyperactivation of the inflammasome in Amyotrophic Lateral Sclerosis. After she graduates she hopes to look for a postdoctoral position in Europe. She wishes to pursue her interest in studying the involvement of dysregulated inflammatory response in neuroinflammatory, rheumatic, or autoimmune diseases

Anthony Kebira PhD: Anthony graduated July 2011 with a PhD in Medical Virology. Currently he is a Lecturer, Kenyatta University. With interest in viral genetic diversity, evolution, drug resistance, phylodynamics, phylogeography. Since 2011, he has been investigating HIV-1 confections among intravenous drug users; networks, origins, phylogeography and phylodynamics. In addition he studies HIV-1 Genetic Diversity and Antiretroviral Drug Resistance patterns among Kenya patients on first-line treatment and first-line treatment failure. He recently got funding from the India Council of Medical Research, Calcuta, India with supervisor; Dr Runu Chakravarty on the following study: Genetic diversity and Temporal Trends of Hepatitis B, Hepatitis C, and HIV-1 mono and Co-infections among IDUs

Susana Monge: She defended her thesis successfully in September 2012 on the "*Socioeconomic factors and HIV-related outcomes: delayed diagnosis, access to treatment and disease progression*" Her ongoing research is on HIV and migration and the impact of social inequalities. She is still in her same position on a Research support contract from 2011-2013 and belongs to an AIDS Research Network rated first amongst the country's research networks that has renewed its funding. Even though there are these positive developments, the prospects are not clear due to the impact of the economic crisis.

Fatuma Namusoke: Is a Lecturer at Makerere University, College of Health Sciences Department of Obs/Gynaecology. She has submitted her thesis for examination. She has produced 2 publications and 2 manuscripts from her thesis. She serves on the Research and Ethics committee and Laboratory committee for Department. She teaches undergraduate and graduate students and did supervise and completed 2 masters dissertation in the past 2 years

Dziedzom K. de SOUZA: Defended his PhD in January 2012. which award was back-dated to February 2011 due to delays by the University bureaucratic system. He was appointment as Research Fellow since January 2013 and has established collaborations with the Centre for Neglected Tropical Diseases, LSTM, Liverpool-UK, the Tokyo Medical and Dental University, Japan. His research focuses on Lymphatic Filariasis and the generation of effector molecules for *An. gambiae* to inhibit *P. falciparum* development

Khoa Thai: He defended his PhD on Dengue virus infection and is currently a resident medical microbiology at the Erasmus Medical Center, Rotterdam. His current research is on the Transmission dynamics of dengue incidence Enterovirus diagnostics

Benson Nyambega: Is a PhD holder and a visiting Researcher at the Biosystems Research Department of Life Sciences Research Laboratory, Hitachi Ltd Tokyo, Japan. He hopes to return to Kenya by the close of 2013 to continue with the development of new diagnostics.

Ihekwereme, Chibueze: Is a Lecturer, in the Dept of Pharmacology, Nnamdi-Azikiwe University Awka, Nigeria His PhD research focusses on Comparative Evaluation of Mucosal Cytotoxicity Assays Using Calu-3 Cells. This work is in its final stages .

Joseph Fokam: Joseph is an Infectious Diseases Scientist, Molecular Virologist who between 2010 and 2013 has produced 06 published papers + 03 in press. He has done many scientific communications: Posters (12) + oral (5). He serves as a Part-time Lecturer in Med Virology & Immunology, Mol Bio, Laboratory Management , and research methodology. He does supervise undergraduate thesis the number about 12 in Medical Laboratory Sciences. He won a grant in 2011 for studies in HIV Research Trust for early career investigators. He is a member of the scientific group within National AIDS Programme Cameroon of the Ministry Public Health. His PhD defense that was submitted early-January has a tentative defence date of May 2013

Chanda Mulenga: Defended her PhD 20th September, 2011 and went back to TDRC and worked until last month. She took leave of absence from TDRC to work as Head of the National TB Reference Laboratory in Lusaka under Ministry of Health

Thomas Dorlo: Defended his PhD on the 17th January 2013 at University of Amsterdam on the topic *Clinical pharmacology in leishmaniasis – treatment optimization of a neglected disease*. He serves as a consultant for Drugs for Neglected Diseases initiative (DNDi). He is an Assistant Professor in Quantitative Clinical Pharmacology in the *Division of Pharmaco-epidemiology & Clinical Pharmacology at the Utrecht University Holland* where he devotes his time between Pharmacometrics, PK/PD, methodology for a total time commitment of 25% teaching. He continues with projects on leishmaniasis: DNDi is funding one PhD student under his supervision where she started in February 1, 2013

Siti Kabanda: Is pursuing her PhD (Medical Biochemistry) working on “The role of inflammation in development of esophageal cancer that has resulted in the publication of an article. She was sponsored to attend the African Society for laboratory Medicine International Conference in 2012 and attended the Advanced summer school in Africa: Nutrition and Disease, Biochemical and molecular insights in 2010 and in 2012. Her future Plans, are to have a career in academic cancer research, promote and have an active role in the improvement of people's healthcare, education and awareness concerning various disease.

Mariama K CHERIF: Successfully defended her PhD thesis in January 2013 and has no position. Her current research interests is on the *Role of Fc gamma receptor polymorphism in protection against clinical malaria which she hopes will happen during the Scientific exchange*. Her interest is for a postdoctoral position in Europe, to study involving the immunology or molecular biology or epigenetics in poverty or neglected related diseases.

Boubacar Maiga: Will defend his PhD thesis late this year 2013, His current position is as a Research Assistant at University of Bamako. His current research interests is in the understanding of the difference in malaria susceptibility between Fulani and non Fulani tribes. His future research interest is in Transfusional Medicine

Daniel Amoako-Sakyo: His PhD is ongoing but holds the position of Lecturer, School of Medical Sciences, University of Cape Coast, Ghana. At this university he is coordinator of the Problem-Based Learning (PBL) approach. His current research interest is on the immunogenetic and epigenetic basis of susceptibility to malaria. He has established collaborative research on the genetic diversity of rotavirus in Ghana with Virginia Tech Clarion Medical School, USA. His future interest is in the epigenetic basis of susceptibility between malaria and other non-communicable diseases.

Dylo Pemba: Will defend his PhD at a date to be communicated in April 2013. He is founder and head of Vector Biology Laboratory in University of Malawi. He is a Senior Lecturer. Editor in chief - Malawi Journal of Science and Technology. His is funded on Parasitic studies by the Research Institute for Humanity and Nature, the VW Foundation and on ECOHEALTH by grant number HRSCI6DFID6UK.

D.10 - RESULTS OBTAINED AND CONCLUSIONS

Despite the forced delay the activities have been successfully conducted and satisfactorily implemented. Fellows have conducted an internal survey among fellows and mentors, in order to evaluate *a posteriori* the impact of PRDC on their scientific growth and career prospects;

1. Fellows have launched an internal call for joint collaborative projects, to be developed together in the future;
2. With the approval of the EU Commission, PRDC officers have granted some seed money to good proposals, Career Development Awards to the most meritorious proposals, and also Encouragement Awards to immature but promising attempts;
3. The fellows have become a group, bound not only by common interests and expectations, but by mutual recognition and respect, based on the cross-cultural exposure provided by PRDC. Mutual understanding is by far the most fundamental result of this project.

E - THE PROJECT WEBSITE – WWW.PRDC-COLLEGE.EU

To make the PRD College gain visibility and to use that as a source of demonstration of what could be achieved, a website was developed as the portal for the project. This was subcontracted to a third party for hosting maintenance and uploading of information.

The website of the project was set up before the end of 2009. It eases the coordination of activities and facilitates worldwide dissemination of information on opportunities. It will also provide a forum for alumni to remain interconnected and to serve as the basis of an autonomous alumni programme.

The screenshot shows the PRD College website homepage. The header includes the logo and the text: "PRD COLLEGE The Poverty Related Disease College - An International Programme on Biomedicine and Development". Below the header is a navigation menu with links: Home | Consortium Members | Course Modules | Research Groups | Resources | Forum | Search | Contact. The main content area is divided into several sections: "Visitors Counter" (014407), "News" (2011 NEWS: Students comments on the PRD College t), "Welcome to PRD COLLEGE" (Training the next generation of European and African PRD Scientists), a world map, "Press Release" (Next Generation of Scientists Researching on Poverty Related Disease trained at ICERS, Cape Town), "Event Calendar" (FIRST ACTIVITY REPORT 12th APRIL 2010, THE REPORT OF EVENTS OF THE PHARMACOLOGY GROUP ON 27th APRIL 2010, REPORT OF FRIDAY 23rd APRIL 2010), and "Newsletter" (Name, Email, Subscribe). The footer contains a detailed description of the college's mission and structure.

All lecture modules were placed on the site in print ready pdf format. A newsletter was readily placed on the site at regular intervals to inform fellows consortium members and the public of activities.

