



FONDAZIONE  
IVO DE CARNERI ONLUS

For the promotion of control strategies against  
parasitic diseases in developing countries  
and to encourage research in parasitology



Ministry of Health of Zanzibar



Under the auspices of



*Ministero degli Affari Esteri  
e della Cooperazione Internazionale*



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## **“Facing the Challenges of Global Health”** An Advanced Residential Course on Poverty-Related and Neglected Tropical Diseases



The course will be held at  
**Public Health Laboratory**  
**“Ivo de Carneri”**  
Pemba Island  
(Zanzibar, United Republic of Tanzania)  
July 17<sup>th</sup> – August 4<sup>th</sup>, 2017



# Scientific Partner Institutions



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## The Target

**The Course is addressed to professionals active or interested in public health research and training, with diverse cultural and scientific background and competence**

## The Goal

**To acquire a solid knowledge and a critical understanding on Poverty-Related and Neglected Tropical Diseases (PR&NTD), and the capability to apply knowledge and understanding to meet the challenge of their control**

## Main Features of the Course

- Based at the Public Health Laboratory “Ivo de Carneri” (PHL-IdC), an established WHO Collaborating Centre on Neglected Tropical Diseases, it provides first-hand experience on research and control of PR&NTD.
- Case studies are given adequate time in the Course programme, with a special emphasis on those where local experience and expertise are available.
- To reduce the time dedicated to introductory lectures, the participants are expected to get pre-informed, thanks to the provision of useful material (papers, Moocs, website links etc.), identified in advance by the teaching faculty.
- The course follows a challenge-based approach, dealing with each issue first under a general perspective (e.g. the emergence and diffusion of insecticide resistance) and then focusing on the specific context, to examine in detail strategies, tools and methods (e.g. the Pemba, Zanzibar case), and critically assessing what can be exported and/or scaled-up and what cannot.
- The gender approach will be cross-sectionally considered among all the health challenges dealt with in the Course programme. Similarly, the ‘traditional medicine’ (ranging from the context specific traditional concepts of illness/disease, prevention/contagion, the rupture of universal harmony and the restoration of wellbeing through traditional healing practices, to the practices - assistance and ritual blessings - of traditional midwives during home delivery to recourse to herbalists, healers, diviners etc.) will not be the specific subject of a separate session, being rather considered in relation to each challenge.

- Among the strengths of the PHL-IdC is that, being part of the Zanzibar Health System, it counts on long standing collaborations with key health system policy makers and managers of the control programmes, who are involved into the teaching faculty.
- The training modules are entrusted to an International, Interdisciplinary and Inter-sectorial (triple I) teaching faculty, which may include e.g. social scientists, bio-medical scientists, gender experts, traditional medicine specialists, academics and managers of control programmes, who will all be responsible for the complete series of teaching events of each module and whenever possible will participate to its whole duration (in general, one week).
- To facilitate both, the teachers to prepare the training material and the participants to self-evaluate their learning progress, the training objectives for each topic of the Course programme are defined on the basis of the Dublin descriptors<sup>1</sup>:
  - D1 Knowledge and understanding
  - D2 Ability to apply knowledge and understanding
  - D3 Judgement
  - D4 Communication skills
  - D5 Learning skills
- Training objectives are defined in terms of expected results: *“At the end of the course the student should be capable to ..... “*
- The teaching methods are balanced between lectures, plenary discussions, field visits (i.e. relatively ‘passive’ learning) and teamwork, laboratory practices, reporting and presentation of team work (i.e. active, creative learning). Overall, lectures and plenary discussions will not take more than 50% of the course time. Active learning is expected to strengthen D2.
- For the active component of the learning process, participants work in small groups of 4-5 persons on a specific challenge (e.g. how to assure that people use properly Long-Lasting Insecticidal Net, LLIN, in a situation of reduced mosquito nuisance?), with the task of designing possible interventions and behavioural change tools and then present their work in plenary, thus strengthening D1- D5.
- Definition of take home messages is known to help learners to critically reflect on the lectures, knowledge and understanding acquired; the question *“what were the most important take home messages for you?”* is addressed at the end of the day or the next morning before starting the subsequent arguments.

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<sup>1</sup> See e.g. [http://ec.europa.eu/education/ects/users-guide/glossary\\_en.htm](http://ec.europa.eu/education/ects/users-guide/glossary_en.htm)

## Why a course on PR&NTD and their control?

Neglected tropical diseases (NTD) are a diverse group of 18 infectious and parasitic diseases<sup>2</sup>, caused by protozoa, helminths, viruses and bacteria that prevail in tropical and subtropical conditions in 149 countries and affect more than one billion people, causing significant health and financial burdens [1]. They also are poverty-related diseases (PRD), since they mainly affect populations living in poverty, without adequate sanitation and in close contact with infectious vectors and domestic animals and livestock [2]. This group of diseases has been overlooked because they mainly affect the least developed countries and because of the emphasis placed on decreasing the prevalence of the 3 major PRD, namely HIV/AIDS, tuberculosis, and malaria [3]. Indeed, these 3 diseases and NTD are most frequently co-endemic: an individual may be infected with more than one NTD in addition to HIV, tuberculosis, and/or malaria. For example, an NTD like schistosomiasis can make women and girls more susceptible to HIV infection and can subtract micronutrients from children to stunt their growth [4].

NTD are disablers rather than killers and their impact on health systems, beyond the suffering of the individual, is huge. They severely affect economies and communities, hampering the reduction of poverty and the development of countries [5]. The control and elimination of NTD would not only reduce the overall disease burden in least developed countries, but would also improve maternal health, reduce childhood mortality, reduce malnutrition, improve school attendance, and help women empowerment [6]. Most NTD are treatable and preventable via the control of their vectors (mainly insects), improved water quality and sanitation, and the efficient delivery of drug treatments [7]. It is not to be forget that many times the incidence of NTD and PRD is accelerated due to a lack in risk perception and prevention on the side of the local population, crucially determined by context-specific cultural ideas and crystallised *habitus* in healing practices which sometimes can facilitate, rather than reduce transmission [8-9-10]. Conscious of this cultural dynamics, Tanzanian authorities and researchers, expressed their adherence to the vision shared by the Pan African Anthropological Association, that an interdisciplinary approach - including medical, cultural and social anthropology in Public Health programmes - is definitely pivotal [11-12].

The first WHO Report on NTD, published in 2010, brought these diseases to the attention of global community [13]. The WHO then released a follow-up report in 2012, closely followed by the 2012 "London Declaration" advocating the control, eradication, or elimination of 10 NTD (lymphatic filariasis, trachoma, soil-transmitted helminthiasis, onchocerciasis, schistosomiasis, leprosy, guinea worm, visceral leishmaniasis, Chagas disease, and human African trypanosomiasis) by 2020 [5,14]. Since the London Declaration, some successes indicate that the objective is achievable: Colombia recently became the first country in the world to eradicate onchocerciasis and Niger, Nigeria, and the Ivory Coast have also recently

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<sup>2</sup> Buruli ulcer, Chagas disease, Dengue and Chikungunya, Dracunculiasis (guinea-worm disease), Echinococcosis, Food-borne trematodiasis, Human African trypanosomiasis (sleeping sickness), Leishmaniasis, Leprosy, Lymphatic filariasis, Onchocerciasis (river blindness), Rabies, Scabies, Schistosomiasis, Soil-transmitted helminthiasis, Taeniasis/Cysticercosis, Trachoma, Yaws (Endemic treponematoses)

eradicated Guinea worm [5]. However, there is still a long way to go: only 10% of global health research is devoted to NTD, that account for 90% of the global disease burden (the so-called '10/90 Gap') [16-17].

Today, NTD are particularly widespread among the poor in sub-Saharan Africa, with soil-transmitted helminth infections, schistosomiasis, lymphatic filariasis, trachoma, and onchocerciasis, together affecting more than 500 million people [18]. Because of their adverse effects on child development, pregnancy outcome, and economy, NTD represent a major reason why people in sub-Saharan Africa cannot escape poverty [18-20].

The United Republic of Tanzania is endemic for at least 7 NTD (lymphatic filariasis, schistosomiasis, soil-transmitted helminthiasis, onchocerciasis, trachoma, rabies, trypanosomiasis) [21]. These diseases rank among the major health concerns also in the Islands of the Zanzibar Archipelago (Pemba included), as highlighted in the "Zanzibar Strategy for Growth and Reduction of Poverty (ZSGRP II) 2010 – 2015" [22]. Consequently, the control and elimination of transmission of NTD prevailing in Zanzibar by 2018 is one of the objectives of the "Zanzibar Health Sector Strategic Plan III 2013/14-2018/19" [23], which shows the Zanzibari health sector commitment in tackling NTD.

[1] World Health Organization (2016). *Neglected tropical diseases*. [online] Available at: [http://www.who.int/neglected\\_diseases/en/](http://www.who.int/neglected_diseases/en/) [Accessed 13 Nov. 2016].

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[9] Buckley AD (1985) *Yoruba medicine and religion*. Oxford: Clarendon Press.

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[15] *Delivering on Promises and Driving Progress*. (2016). 1st ed. [ebook] Uniting to Combat NTDs coalition. Available at: [http://unitingtocombatntds.org/sites/default/files/document/NTD\\_report\\_04102014\\_v4\\_singles.pdf](http://unitingtocombatntds.org/sites/default/files/document/NTD_report_04102014_v4_singles.pdf)

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## Training Objectives of the Course<sup>3</sup>

At the end of the course the participant has improved his/her capability in:

### D1 - KNOWLEDGE AND UNDERSTANDING

- The participant knowledge about the Course topics has shown a remarkable increase during the 3 weeks of the Course duration, as evaluated by the quality of the reports produced
- The participant contribution to the discussions, in terms of quality and quantity, demonstrated that the notions passed during the lectures have been properly understood

### D2 - ABILITY TO APPLY KNOWLEDGE AND UNDERSTANDING

- The real-life simulation exercises, the team work and the role-playing games demonstrated that the participant has become able to translate the knowledge into practice for problem solving

### D3 – JUDGEMENT

- The participant has acquired the ability of critically assessing the scientific validity of data from various information sources
- The participant has become able to formulate an independent judgement on the reliability of data from monitoring and surveillance activities of control programmes

### D4 - COMMUNICATION SKILLS

- The participant is now able to interact with health specialists of various sectors and discuss about PR&NTD and their control using the appropriate language so to insure unequivocal mutual understanding
- The participant can easily interact and work in team with other trainees to produce roadmaps, proposals, action plans to meet PR&NTD challenges.

### D5 - LEARNING SKILLS

- The participant has developed/improved the skills needed to gather information and references through the web search engines, to identify the most appropriate websites as sources of continuous, disciplinary and methodological up-date.

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<sup>3</sup>A similar scheme will be introduced for each topic of the course

## The Course at a glance

**Scientific Coordinator of the course:** Prof. Fulvio Esposito, Professor (emeritus) of Parasitology, Senior Research Policy Adviser at the Italian Ministry for Education, University and Research (MIUR, Italy), Member of the European Research Area Committee and of the Steering Group on Human Resources and Mobility (European Commission, DG-RTD), mail to [fulvio.esposito@miur.it](mailto:fulvio.esposito@miur.it)

**Scientific Coordinator of the course on-site:** Dr. Carlo Vittorio Resti, Global Health, Occupational Health and Infectious Diseases Expert, Italy, mail to [restic@hotmail.com](mailto:restic@hotmail.com)

**Scientific and Organizing Secretariat:** Dr. Francesca Moretti, Ivo de Carneri Foundation (Milan, Italy), mail to [f.moretti@fondazioneocarneri.it](mailto:f.moretti@fondazioneocarneri.it)

**Administrative Secretariat:** Dr. Sara Lamperti, Ivo de Carneri Foundation (Milan, Italy), mail to [s.lamperti@fondazioneocarneri.it](mailto:s.lamperti@fondazioneocarneri.it)

**Organizing Institutions:** Ivo de Carneri Foundation, Milan (Italy) and Public Health Laboratory “Ivo de Carneri”, Pemba, Zanzibar (United Republic of Tanzania)

**Local Counterpart:** Ministry of Health of Zanzibar

**Where:** Public Health Laboratory “Ivo de Carneri” ([www.phlidc.org](http://www.phlidc.org))-Pemba, Zanzibar (United Republic of Tanzania)

**When:** July 17th – August 4th 2017

### Summary Content of the Course:

First Week	Second Week	Third Week
Essential components of the ‘toolkit’ for PR&NTD control: Social Sciences and Health Data Management	From global to local: Lessons taught by ongoing programmes for PR&NTD control	Adopting a holistic approach to PR&NTD control

### Participants

For the sake of training effectiveness and to guarantee the full and active participation to the course activities, the number of participants is limited to 20. Out of this number, 10 places are reserved to African participants (two of which to Zanzibari participants) and 10 to European participants (two of which to Italian participants)

### Qualifications required for admission

- University Degree
- Good knowledge of written and spoken English, with excellent level of listening and comprehension.

**Registration Fee:** EUR 1,800

**Registration Fee includes:** Course Participation and Full Board Accommodation.

**Registration Fee does not include:** Travel expenses to/from Pemba, Visa, Airport taxes, Insurance, Personal expenses.

### **Scholarships**

A number of scholarships to cover the Registration Fee will be offered to African applicants with an excellent curriculum.

### **Application**

Applications are accepted until the **15th of April 2017 EOB**. Candidates must send, **attached to an e-mail message to [f.moretti@fondazione-decarneri.it](mailto:f.moretti@fondazione-decarneri.it)** 1) the **Application Form** to be downloaded from the website [www.fondazione-decarneri.it](http://www.fondazione-decarneri.it), 2) an updated **Curriculum Vitae**, 3) a **Motivational Letter**, 4) a copy of the **Degree Certificate** and 4) a **Copy of Passport**.

All applicants will be informed upon reception of their documents.

Candidates will be shortlisted based on the documents provided (CV, Motivational Letter, Degree Certificate). Shortlisted candidates will be interviewed (Skype or similar) for an in-depth, final evaluation.

All candidates will be informed about the result of their application.

**For any information regarding the course contact, please, Dr Francesca Moretti at [f.moretti@fondazione-decarneri.it](mailto:f.moretti@fondazione-decarneri.it)**

## Detailed Programme of the Course

FIRST WEEK		
<b>MONDAY</b>	<b>17 JULY, 2017</b>	
<b>Introduction to the course</b>		
<b>Morning</b>	<b>Subject</b>	<b>Speakers</b>
	Opening of the Course	JAMALA TAIB, Director General, Ministry of Health, Zanzibar  Representative of the Italian Development Cooperation in the United Republic of Tanzania (to be confirmed)
	Presentation of the Ivo de Carneri Foundation (IdCF)	ALESSANDRA CAROZZI DE CARNERI, President IdCF  YAHYA AL SAWAFY, Local Representative IdCF
	Presentation of the Public Health Laboratory "Ivo de Carneri" (PHL-IdC), introduction to the Course and logistic arrangements	SAID M. ALI, Director PHL-IdC
	Introduction of participants and gathering of participants' expectations about the Course, PRE-TEST	FRANCESCA MORETTI, Scientific and Organisational Secretariat of the Course
	Introducing research, training and control activities at PHL-IdC	SHAALI AME, Head of Laboratory Services PHL-IdC  SAID M ALI, Director PHL-IdC

FIRST WEEK			
<b>MONDAY</b>	<b>17 JULY, 2017</b>		
<b>Introduction to the course</b>			
<b>Afternoon</b>	<b>Subject</b>	<b>Facilitator(s)<sup>4</sup></b>	<b>Type of activity</b>
	Guided tour of the PHL-IdC	SHAALI AME, Head of Laboratory Services PHL-IdC	<i>Visit with Q&amp;A<sup>5</sup></i>
	Management of a Mother and Child District Hospital	ALI HABIB, Doctor in charge Chake Chake hospital	<i>Visit with Q&amp;A</i>

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<sup>4</sup> *Nota Bene*: the names indicated as 'Facilitators' are those of experts who indicated that they are available to deal with the relevant Subjects. However, additional experts willing to deal with the same Subject, working in team with those already indicated are warmly welcome!

<sup>5</sup> Questions and Answers

FIRST WEEK			
Theme of the week	Essential components of the 'toolkit' for PR&NTD control: Social Sciences and Health Data Management		
TUESDAY	18 JULY, 2017		
Social Science and Humanities (SSH) and PR&NTD Control			
Morning	Subject	Facilitator(s)	Type of activity
	Social Health Determinants and drivers of poverty: case studies on neglected diseases	CARLO V. RESTI, Global Health, Occupational Health and Infectious Diseases Expert, Italy	<i>Lecture and plenary discussion</i>
	An introduction to PR&NTD control by epidemiologists, social scientists and health data surveillance experts: examples from Zanzibar and beyond	LUCAS MATEMBA, National Institute for Medical Research, Tanzania (NIMR) EMMANUEL A. MAKUNDI, NIMR SUSAN RUMISHA, NIMR FATMA KABOLE (NTD Program manager)	<i>Lecture and plenary discussion</i>
Afternoon	Subject	Facilitator(s)	Type of activity
	Introduction to SSH in health; the contribution of medical, and linguistic anthropology (lexicographical mapping), sociology, communication science gender research, and health economics to PR&NTD control	ILARIA MICHELI, University of Trieste (UNITS) ESTHER DUSABE-RICHARDS, Liverpool School of Tropical Medicine (LSTM) JOHN DUSABE-RICHARDS, LSTM EMMANUEL A. MAKUNDI, NIMR	<i>Lecture and plenary discussion</i>
	Social Health Determinants and drivers of poverty: case studies on neglected diseases	CARLO V. RESTI, Global Health, Occupational Health and Infectious Diseases Expert, Italy	<i>Group work</i>

<b>TUESDAY</b>	<b>18 JULY, 2017</b>		
<b>Social Science and Humanities (SSH) and PR&amp;NTD Control</b>			
<b>Afternoon</b>	<b>Subject</b>	<b>Facilitator(s)</b>	<b>Type of activity</b>
	Making the change: involving the communities via a science culture approach	M. CHIARA INVERNIZZI, University of Camerino (UNICAM)  ANNE-MARIE BRUYAS, Città della Scienza, Napoli (to be confirmed)	<i>Lecture and plenary discussion</i>
	New and innovative methods and tools to achieve permanent health behaviour changes	EMMANUEL A. MAKUNDI, NIMR	<i>Role play</i>
	Summary of the day	FACILITATORS OF THE DAY	<i>Wrap up of the topics discussed during the day</i>

FIRST WEEK			
Theme of the week	Essential components of the 'toolkit' for PR&NTD control: Social Sciences and Health Data Management		
WEDNESDAY	19 JULY, 2017		
Control of PR&NTD and Human Development			
Morning	Subject	Facilitator(s)	Type of activity
	Sustainable PR&NTD control through human development: applying a gender equity lens	ESTHER DUSABE-RICHARDS, LSTM JOHN DUSABE-RICHARDS, LSTM EMMANUEL A. MAKUNDI, NIMR	<i>Interactive session, facilitator-led with individual and group participation</i>
	Taking examples from Tanzanian Control Programmes	ESTHER DUSABE-RICHARDS, LSTM JOHN DUSABE-RICHARDS, LSTM EMMANUEL A. MAKUNDI, NIMR	<i>Lecture and plenary discussion</i>
Afternoon	Subject	Facilitator(s)	Type of activity
	Considering the local beliefs: AIDS perception and stigma in 'traditional' communities	ILARIA MICHELI, UNITS EMMANUEL A. MAKUNDI, NIMR	<i>Lecture and plenary discussion</i>
	HIV/AIDS cultural barriers and their management in Zanzibar & Mainland	FARHAT K. JOHAR, Zanzibar AIDS Control Program SABRI ISSA/BIMMANGA SEIF, Zanzibar Association of People living with HIV/AIDS (ZAPHA +) coordinator, Pemba	<i>Lecture and plenary discussion</i>  <i>Role play</i>
	Chake Clinic: Voluntary counselling and testing (VCT) for HIV/AIDS and other sexually transmitted infections	SITI MAKAME, VCT in charge Chake Chake Hospital	<i>Visit with Q&amp;A</i>
	Summary of the day	FACILITATORS OF THE DAY	<i>Wrap up of the topics discussed during the day</i>

<b>FIRST WEEK</b>			
<b>Theme of the week</b>	<b>Essential components of the 'toolkit' for PR&amp;NTD control: Social Sciences and Health Data Management</b>		
<b>THURSDAY</b>	<b>20 JULY, 2017</b>		
<b>The role of Information and Communication Technology (ICT) in the management of PR&amp;NTD control activities and/or programmes: basic rules and critical issues</b>			
<b>Morning</b>	<b>Subject</b>	<b>Facilitator(s)</b>	<b>Type of activity</b>
	Introduction to Health Management Information Systems (HMIS); significance of the tool for providing correct and timely health information to control programme managers, policy makers and communities  Bio-statistics, a powerful tool for epidemiologists: handle with care!	LUCAS MATEMBA, NIMR SUSAN RUMISHA, NIMR  DAVIDE BERNASCONI, University of Milan-Bicocca (UNIMIB)	<i>Lecture and plenary discussion</i>
	Collection, analysis and interpretation of data, the Zanzibar Health Management Information System	SULEIMAN ALI / AMOUR TAJO, Zanzibar National Health Management Information System	<i>Lecture and plenary discussion</i>
<b>Afternoon</b>	<b>Subject</b>	<b>Facilitator(s)</b>	<b>Type of activity</b>
	Taking as an example the National Malaria Control Programme in Zanzibar: heading towards malaria elimination; how to sustain appropriate epidemiological surveillance	ABDALLA SULEIMAN, Zanzibar National Malaria Control Programme  FULVIO ESPOSITO, Ministry of Education, University and Research (MIUR), Italy  DAVIDE BERNASCONI, UNIMIB	<i>Lecture and plenary discussion</i>
	Laboratory diagnosis of malaria and quality assurance at district level	CARLO SEVERINI, National Institute of Health (ISS, Istituto Superiore di Sanità), Italy  GIANLUCA RUSSO, Sapienza University (UNIROMA1)	<i>Laboratory practice with Q&amp;A</i>
	Summary of the day	FACILITATORS OF THE DAY	<i>Wrap up of the topics discussed during the day</i>

<b>FIRST WEEK</b>	
<b>Theme of the week</b>	<b>Essential components of the 'toolkit' for PR&amp;NTD control: Social Sciences and Health Data Management</b>
<b>FRIDAY</b>	<b>21 JULY, 2017</b>
<b>Wrap up of the topics discussed during the week: the role of social sciences and humanities in the control of PRD and PR&amp;NTD; the importance of an effective and efficient open data management</b>	
<b>Morning</b>	<b>Group Work (4-5 persons per group) on selected arguments</b>
<b>Afternoon</b>	<b>Continuation of Group Work</b>
	<b>Plenary presentations of the ideas developed in each group on how to meet identified problems</b>

Preliminary Version

SECOND WEEK			
Theme of the week	From global to local: Lessons taught by ongoing programmes for PR&NTD control		
MONDAY	24 JULY, 2017		
Mosquito-borne PR&NTD			
Morning	Subject	Facilitator(s)	Type of activity
	Ideas of contagion, risk perception and prevention in traditional uneducated contexts	ILARIA MICHELI, UNITS	<i>Lecture and plenary discussion</i>
	Elimination of malaria and lymphatic filariasis in Tanzania mainland and Zanzibar: comparing achievements and difficulties	1 FACILITATOR, NIMR (to be confirmed) DAVIDE BERNASCONI, UNIMIB	<i>Lecture and plenary discussion</i>
	Flavivirus infections: clinical aspects and public health impact	GIANLUCA RUSSO, UNIROMA1	<i>Lecture and plenary discussion</i>
Afternoon	Subject	Facilitator(s)	Type of activity
	The emergence of artemisinin-based combination therapy (ACT) resistance: strategies to delay the emergence or to contain the diffusion of drug resistant parasites	CARLO SEVERINI, ISS	<i>Lecture and plenary discussion</i>
	Surveillance and strategies to delay emergence and diffusion of insecticide resistant anopheles vectors  The situation in African countries and in Tanzania	CARLO SEVERINI, ISS  WILLIAM KISINZA, NIMR HAMISI M. MALEBO, NIMR	<i>Laboratory practice with Q&amp;A</i>
	Summary of the day	FACILITATORS OF THE DAY	<i>Wrap up of the topics discussed during the day</i>

SECOND WEEK			
Theme of the week	From global to local: Lessons taught by ongoing programmes for PR&NTD control		
TUESDAY	25 JULY, 2017		
Soil transmitted helminths and schistosomiasis			
Morning	Subject	Facilitator(s)	Type of activity
	Introduction to the epidemiology and control of soil transmitted helminths and schistosomiasis in African settings and Tanzania mainland	ANNETTE HABLUETZEL, UNICAM LUCAS MATEMBA, NIMR SAFARI KINUNG'HI, NIMR	<i>Lecture and plenary discussion</i>
	Soil transmitted helminths and schistosomiasis in Zanzibar: progress towards schistosomiasis elimination and challenges for intestinal helminths control	FATMA KABOLE, Manager NTD National Control Programme, Zanzibar	<i>Lecture and plenary discussion</i>
	Community perception of helminthiasis and currently applied helminth control measures (e.g. mass treatments)	EMMANUEL A. MAKUNDI, NIMR SAFARI KINUNG'HI, NIMR	<i>Lecture and plenary discussion</i>
Afternoon	Subject	Facilitator(s)	Type of activity
	'Classic' and 'molecular' diagnostic techniques for urinary schistosomiasis, intestinal helminthiasis and lymphatic filariasis	GUIDO FAVIA, UNICAM	<i>Laboratory practice with Q&amp;A</i>
	An overview on copro-microscopic parasitological diagnostic approaches	LAURA RINALDI, University of Napoli Federico II (UNINA)	<i>Lecture and plenary discussion</i>
	Recent developments for parasitological diagnosis: FLOTAC and Mini-FLOTAC	LAURA RINALDI, UNINA	<i>Laboratory practice with Q&amp;A</i>
	Summary of the day	FACILITATORS OF THE DAY	<i>Wrap up of the topics discussed during the day</i>

SECOND WEEK			
Theme of the week	From global to local: Lessons taught by ongoing programmes for PR&NTD control		
WEDNESDAY	26 JULY, 2017		
Water-borne bacterial and parasitic diseases			
Morning	Subject	Facilitator(s)	Type of activity
	Water-borne infectious diseases of public health importance in African settings, diffusion and control	GIANLUCA RUSSO, UNIROMA1 HAMISI M. MALEBO, NIMR ROBERT M. NJEE, NIMR	<i>Lecture and plenary discussion</i>
	Water-borne protozoan parasites: <i>Entamoeba histolytica</i> , <i>Giardia</i> , <i>Cryptosporidium</i> , <i>Toxoplasma</i>	ANNETTE HABLUETZEL, UNICAM	<i>Lecture and plenary discussion</i>
Afternoon	Subject	Facilitator(s)	Type of activity
	Water test quality in the laboratory	SHAALI AME, Head of Laboratory Services, PHL-IdC HAMISI M. MALEBO, NIMR	<i>Laboratory practice with Q&amp;A</i>
	Diagnosis of protozoan parasites in water & faecal samples	GUIDO FAVIA, UNICAM ANNETTE HABLUETZEL, UNICAM LAURA RINALDI, UNINA	<i>Laboratory practice with Q&amp;A</i>
	Summary of the day	FACILITATORS OF THE DAY	<i>Wrap up of the topics discussed during the day</i>

SECOND WEEK			
Theme of the week	From global to local: Lessons taught by ongoing programmes for PR&NTD control		
THURSDAY	27 JULY, 2017		
Control of vector borne, soil- and water-transmitted parasites: new, effective and acceptable tools			
Morning	Subject	Facilitator(s)	Type of activity
	News from the vector control pipeline	HAMISI M. MALEBO, NIMR	<i>Lecture and plenary discussion</i>
	Lessons learnt from helminth control programmes; perspectives on the horizon	SAFARI KINUNG'HI, NIMR	<i>Lecture and plenary discussion</i>
	1. Neglected tropical diseases in the post-genomic era: mechanisms of genome dynamics and evolution	CRISTINA MICELI, UNICAM	<i>Lecture and plenary discussion</i>
Afternoon	Subject	Facilitator(s)	Type of activity
	2. Neglected tropical diseases in the post-genomic era: a. available genome databases: how to navigate inside; b. genome editing techniques as new control methods	CRISTINA MICELI, UNICAM	<i>Lecture and plenary discussion</i>
	Organic waste: a severe threat for the diffusion of PR&NTD agents	KHALFAN SHAH, Environmental Health Unit, Pemba	<i>Facilitator-led discussion</i>
	Environment restoration and management: opportunities for income generating activities	SAID MBAROUK JUMA, Environment Unit, Pemba	<i>Lecture and facilitator-led discussion</i>
	Summary of the day	FACILITATORS OF THE DAY	<i>Wrap up of the topics discussed during the day</i>

<b>SECOND WEEK</b>	
<b>Theme of the week</b>	<b>From global to local: Lessons taught by ongoing programmes for PR&amp;NTD control</b>
<b>FRIDAY</b>	<b>28 JULY, 2017</b>
	<b>Wrap up of the topics discussed during the week: vector-, water- and soil-transmitted PR&amp;NTD (community perceptions, attitudes and practices; challenges for programmes of community health education and behaviour change)</b>
<b>Morning</b>	<b>Group Work (4-5 persons per group) on identification of the main challenges of control/elimination faced in Zanzibar</b>
<b>Afternoon</b>	<b>Continuation of Group Work</b>
	<b>Plenary presentations of the ideas developed in each group on how to meet identified problems</b>

Preliminary

THIRD WEEK			
Theme of the week	Adopting a holistic approach to PR&NTD control		
MONDAY	31 JULY, 2017		
	Promoting and safeguarding mother & child well being		
Morning	Subject	Facilitator(s)	Type of activity
	Healthy livelihoods in safe environments: promoting & safeguarding family health, experiences in Africa & Tanzania	ILARIA MICHELI, UNITS LUCAS MATEMBA, NIMR HAMISI M. MALEBO, NIMR ROBERT M. NJEE, NIMR	<i>Lecture and plenary discussion</i>
	Maternal and child health priorities in Pemba	SHARIFA HUMUD, Reproductive and Child Health (RCH) coordinator, Pemba	<i>Lecture and plenary discussion</i>
	The Expanded Program of Immunization (EPI) in Zanzibar: a possible vehicle for PR&NTD control measures	ABDUL SALEH, Zanzibar EPI National Programme manager	<i>Lecture and plenary discussion</i>
Afternoon	Subject	Facilitator(s)	Type of activity
	Introduction to the most widespread approaches and practices of traditional midwives in Africa	ILARIA MICHELI, UNITS	<i>Lecture and facilitator-led discussion</i>
	Meeting with a Traditional Birth Attendant	SHARIFA HUMUD, RCH coordinator, Pemba (to identify a TBA)	<i>Facilitator-led discussion with Q&amp;A</i>
	Experience of the Mother and Child Clinic at Gombani, meeting with women key-informants	YAHYA AL SAWAFY Local Representative IdCF ANNETTE HABLUETZEL, UNICAM ILARIA MICHELI, UNITS	<i>Visit with Q&amp;A</i>
	Summary of the day	FACILITATORS OF THE DAY	<i>Wrap up of the topics discussed during the day</i>

THIRD WEEK			
Theme of the week	Adopting a holistic approach to PR&NTD control		
TUESDAY	1 AUGUST, 2017		
The interaction between nutrition, PR&NTD (with special emphasis on intestinal infections) and health, from infancy to adulthood			
Morning	Subject	Facilitator(s)	Type of activity
	Modern and Traditional concepts of nutrition, food habits and social determinants of nutrition (culture, gender- and age-related food practices and taboos)	ASHA HASSAN SALMIN, Zanzibar Nutrition Unit  FRANCESCA MORETTI, Ivo de Carneri Foundation (FidC)  NYAGOSYA RANGE, NIMR  ILARIA MICHELI, UNITS	<i>Lecture and plenary discussion</i>
	Impact of nutrition, intestinal parasites and infectious agents on the health status of individuals	SOLOMON ABAY, University of Addis Ababa (UniAddis)	<i>Lecture and plenary discussion</i>
Afternoon	Subject	Facilitator(s)	Type of activity
	Early life nutrition and the programming of adult health: Diet, microbiota and health	ROSITA GABBIANELLI, UNICAM	<i>Lecture and plenary discussion</i>
	Laboratory biomarkers for nutritional assessment	ANNAMARIA ELEUTERI, UNICAM	<i>Laboratory practice with Q&amp;A</i>
	Summary of the day	FACILITATORS OF THE DAY	<i>Wrap up of the topics discussed during the day</i>

THIRD WEEK			
Theme of the week	Adopting a holistic approach to PR&NTD control		
WEDNESDAY	2 AUGUST, 2017		
Pharmacological control of parasitic diseases, modern drugs and traditional remedies: strengths and weaknesses, risks and opportunities			
Morning	Subject	Facilitator(s)	Type of activity
	Drugs and treatments: development and diffusion of resistant parasites, strategies to delay emergence of resistance; surveillance of drug susceptibility; quality control of drugs	ANNETTE HABLUETZEL, UNICAM SOLOMON ABAY, UniAddis HAMISI M. MALEBO, NIMR	<i>Lecture and plenary discussion</i>
	Traditional, plant-based remedies and treatments: potential and risks	SOLOMON ABAY, UniAddis HAMISI M. MALEBO, NIMR ANNETTE HABLUETZEL, UNICAM	<i>Lecture and plenary discussion</i>
Afternoon	Subject	Facilitator(s)	Type of activity
	Nutrition and co-infections (examples): tuberculosis and HIV, schisto and HIV, malaria and helminths	ALBERTO MATTEELLI (telco lecture), University of Brescia, Italy	<i>Lecture and plenary discussion</i>
	Maternal and child malnutrition: modern and traditional medicine management practices	NYAGOSYA RANGE, NIMR HAMISI M. MALEBO, NIMR	<i>Lecture and plenary discussion</i>
	Probiotics and amino acid diet supplementation as tools against malnutrition	ANNAMARIA ELEUTERI, UNICAM	<i>Lecture and plenary discussion</i>
	Meeting with Pemba herbalists	OMAR KHAMIS, Traditional practitioner association, Pemba	<i>Facilitator-led discussion</i>
	Visit of herbalists' shops	SULEIMAN MAKAME, Traditional Healer Association, Pemba	<i>Visit with Q&amp;A</i>
	Summary of the day	FACILITATORS OF THE DAY	<i>Wrap up of the topics discussed during the day</i>

THIRD WEEK			
Theme of the week	Adopting a holistic approach to PR&NTD control		
THURSDAY	3 AUGUST, 2017		
PR&NTD management information systems; innovative, integrated approaches to collect, analyse and store open data			
Morning	Subject	Facilitator(s)	Type of activity
	From a qualitative to a quantitative approach: how to obtain, analyse and store findable, accessible, interoperable and retrievable (FAIR) data Measures of Disease Occurrence	ILARIA MICHELI, UNITS  LORENZA SCOTTI, UNIMIB	<i>Lecture and plenary discussion</i>
	How to produce context-specific and target-oriented meaningful open data on PR&NTD; examples from other African countries and from Zanzibar	SUSAN RUMISHA, NIMR LUCAS MATEMBA, NIMR	<i>Lecture and plenary discussion</i>
	Community based data collection with mobile phone tools: experiences in Tanzania	HAMISI M. MALEBO, NIMR	
Afternoon	Subject	Facilitator(s)	Type of activity
	Measures of Disease Association	LORENZA SCOTTI, UNIMIB	<i>Lecture and facilitator-led discussion</i>
	One health approach and geospatial tools for PR&NTD control	LAURA RINALDI, UNINA	<i>Lecture and facilitator-led discussion</i>
	Summary of the day	FACILITATORS OF THE DAY	<i>Wrap up of the topics discussed during the day</i>

<b>THIRD WEEK</b>	
<b>Theme of the week</b>	<b>Adopting a holistic approach to PR&amp;NTD control</b>
<b>FRIDAY</b>	<b>4 AUGUST, 2017</b>
<b>Wrap up of the topics discussed during the week: PR&amp;NTD, health and nutrition; drugs- (and remedies)-related challenges for the control of PR&amp;NTD; the open data challenge</b>	
<b>Morning</b>	<b>Group Work (4-5 persons per group) on identification of the main challenges</b>
<b>Afternoon</b>	<b>Continuation of Group Work</b>
	<b>Plenary presentations of the ideas developed in each group on how to meet identified problems</b>

Preliminary

## The Organisers

### *The Ivo de Carneri Foundation*

The Ivo de Carneri Foundation was founded in 1994 by the family, colleagues and students of Professor Ivo de Carneri in memory of his life and work. Professor De Carneri contributed significantly to the fight against parasitic and infectious diseases through scientific research, field interventions and training of young researchers.

The mission of the Ivo de Carneri Foundation is “to promote control strategies against parasitic diseases in developing countries and to encourage research in parasitology”.

One of the Foundation’s first priorities was to create a public health laboratory on Pemba Island (Zanzibar) to provide better support for parasitic diseases’ control programmes in the area. This was an idea of Professor Ivo de Carneri conceived in 1988 while on a mission to Pemba for the Italian Ministry of Foreign Affairs to assess the national schistosomiasis control programme. The Public Health Laboratory was then realized after Professor De Carneri passed away and officially opened on 12 June 2000. In response to the local Ministry of Health’s wishes it was named Public Health Laboratory “Ivo de Carneri” (PHL-IdC).

### *Public Health Laboratory – Ivo de Carneri (PHL-IdC)*

PHL-IdC is a recognized Institution within the Ministry of Health of Zanzibar that implements research studies related to national and global health priorities. The main activities of the PHL-IdC are: operational research, monitoring interventions for public health priorities and training for local and international health personnel and scientists.

Since its foundation, PHL-IdC has attained considerable achievements, establishing Zanzibar as a pioneering location for developing global strategies for control of parasitic diseases. Successful public health interventions, especially in the area of NTD, led to the recognition of PHL-IdC as “**WHO Collaborating Centre for Neglected Tropical Diseases**”.

PHL-IdC collaborates with national and international research institutions carrying out scientific research and training on Poverty Related and Neglected Tropical Diseases (PR&NTD). Important research areas are: schistosomiasis, soil and water transmitted parasitic infections, lymphatic filariasis, malaria, tuberculosis, diarrhoeal diseases, malnutrition and related diseases.

## The Venue



The course venue is the Public Health Laboratory “Ivo de Carneri” (PHL-IdC) in Pemba Island (Zanzibar, United Republic of Tanzania), an advanced research performing organisation. The main building of 800 m<sup>2</sup>, is divided into several sections: Laboratory (Parasitology, Bacteriology, Virology), Training and Administration. The conference room can accommodate up to 50 people and is equipped with training facilities. Wireless internet service is available and h24 electricity is guaranteed by solar panels and a power supply generator. A canteen takes care of the participants with local food. Participants will be accommodated in the PHL-IdC guest houses 2 km away from the PHL-IdC premises. A shuttle service is guaranteed by the local staff.

Further information can be found at the Ivo de Carneri Foundation website: [www.fondazionedecarneri.org](http://www.fondazionedecarneri.org)

## The Sponsor



### Italian Association Carlo Urbani

The Italian Association Carlo Urbani (AICU) is a non-profit organization founded in July 2003 with the aim to continue the extraordinary humanitarian work of Carlo Urbani, a Doctor Without Borders who died of SARS, a disease that he himself had first identified. The main aim of the AICU is to remember and honour the role of Dr. Carlo Urbani from a human, professional and scientific point of view, through the conduct of activities in one or more areas covered by art. 10 of the Legislative Decree 4th December 1997, n.460, exclusively focused on charitable purposes. The association aims to continue the work begun by Dr. Carlo Urbani pursuing the following targets:

- o To raise funds for the acquisition of essential medicines, to be allocated to institutions and associations engaged in the care and prevention of infectious and parasitic diseases that affect the populations of developing countries, especially children.
- o To promote and finance courses to be held in Italy and abroad, in the field of infectious and parasitic diseases, aimed at doctors and workers resident in developing countries. Since 2005 AICU is co-funding this residential training course in Pemba island.
- o To promote, organize and finance events, exhibitions, conferences, meetings and more, in order to improve access to essential medicines and care for the poorest populations.
- o To influence, as much as possible, the decisions of pharmaceutical companies and, consequently, their willingness to finalise research on essential medicines and supply them to populations and villages recommended by the Association.
- o To award grants, prizes and scholarships named after Dr. Carlo Urbani, dedicated to the study of the prevention and treatment of infectious and parasitic diseases.

To promote and encourage initiatives, projects and aid of particular humanitarian interest in developing countries

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*The Italian Association Carlo Urbani (AICU) has supported the Ivo de Carneri Foundation (IdCF) for the implementation of training activities from the very beginning. Our grateful thoughts go to Dr Carlo Urbani, colleague and friend who initiated this training philosophy based on exchange from developed and developing world in collaboration with the IdCF back in 2000 in Macerata (Italy) and who keeps supporting us, by sharing both principles and ideals, through the Association established in his name.*

## General information

### Pemba Data

**Population:** 406.808 (2012 census)

**Surface:** 988 km<sup>2</sup> (381 sq mi)

**Time:** GMT + 3

**Languages:** Kiswahili and English

**Religion:** More than 90% of Zanzibar population are Muslim

**Money:** Tanzanian Schilling TZS

### General Information to enter the country

**Passport:** a valid passport is needed with validity of at least 6 months since the date of entry in the country.

**Entry Visa:** need of an ENTRY VISA which can be obtained at Tanzanian Consulate in the country of origin.

Zanzibar is a country with Islamic traditions: to respect local habits it is recommended not to drink alcoholic beverages and dress up with long trousers or skirts and with shoulders covered.

### Health Information

Before departure is advisable to consult a travel doctor for vaccinations and prophylaxis. No vaccinations are required (yellow fever vaccination is required if coming from endemic areas).

It is advisable to stipulate an health insurance.

In addition, it is recommended to:

- drink bottled water or soft drinks without ice;
- treat the water for alimentary use (boil for 20 minutes and/or filter it);
- avoid eating raw vegetables and sea food;
- promptly consult a physician if you have symptoms as, e.g., fever, diarrhea, vomiting.