UP Centre for Sustainable Malaria Control

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UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA
Faculty of Health Sciences

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Vision

To make a substantial contribution towards the creation of a malaria-free Africa by:

- Employing sustainable and environmentally safe malaria vector control technologies;
- Establishing integrated vector management strategies;
- Ensuring effective malaria case management; and
- Promoting health education in affected populations

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Mission

The Centre for Sustainable Malaria Control strives to:

- Generate new knowledge pertaining to safe malaria vector control in Africa through fundamental and applied research;
- Support and promote research collaboration within the University of Pretoria and with regional, national and international partners; and
- Leverage and coordinate existing research activities in the UP departments.

INTER-DISCIPLINARY RESEARCH

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Research Focus

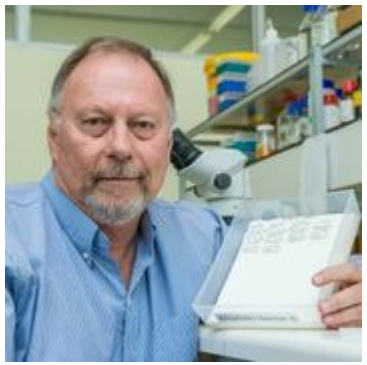
Safer malaria control and management through 3 clusters:

Parasite Control

Prof Lyn-Marie Birkholtz

Vector Control

Prof Leo Braack



Human Health

Prof Anton Stoltz

Coordinator:

Dr Taneshka Kruger

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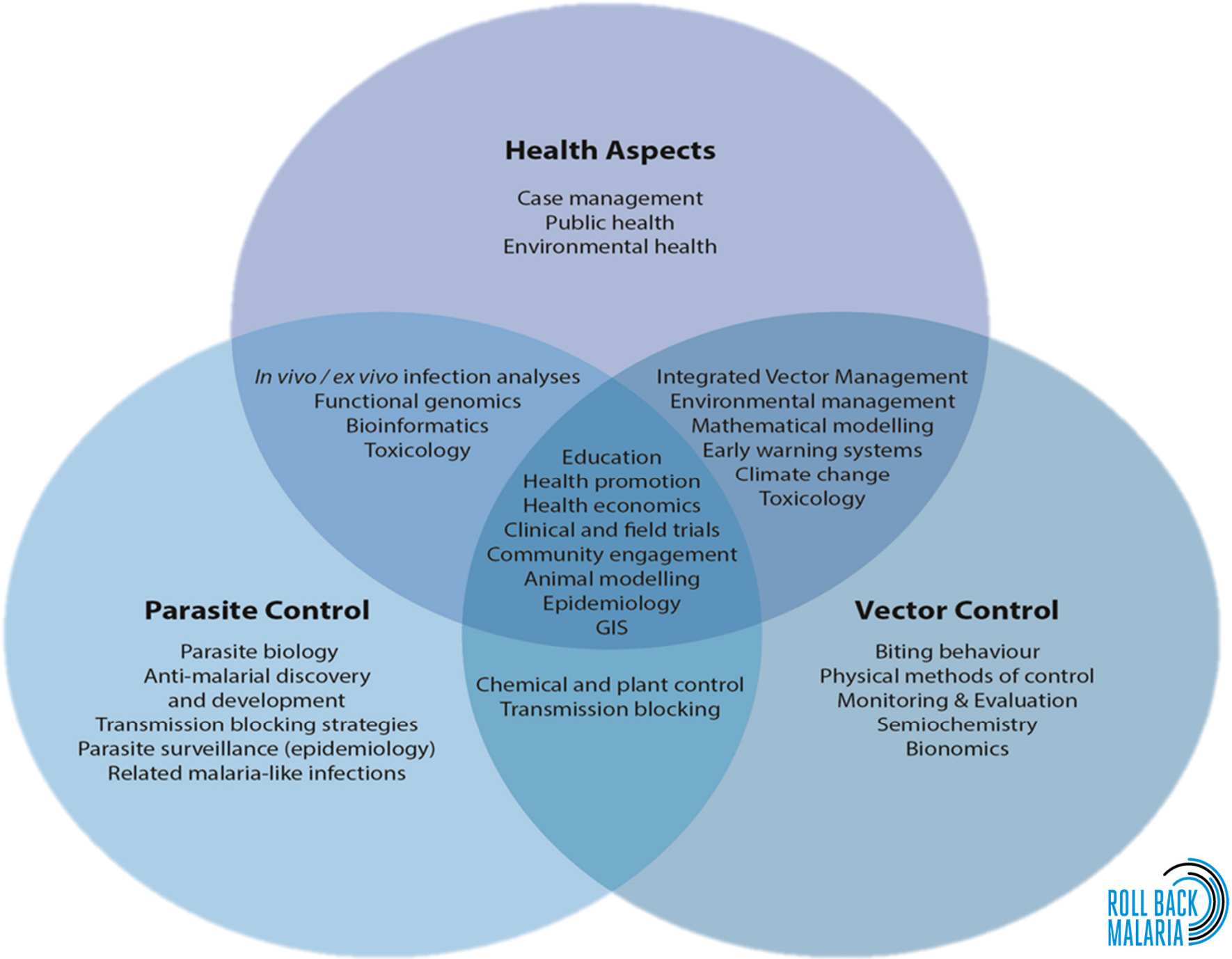

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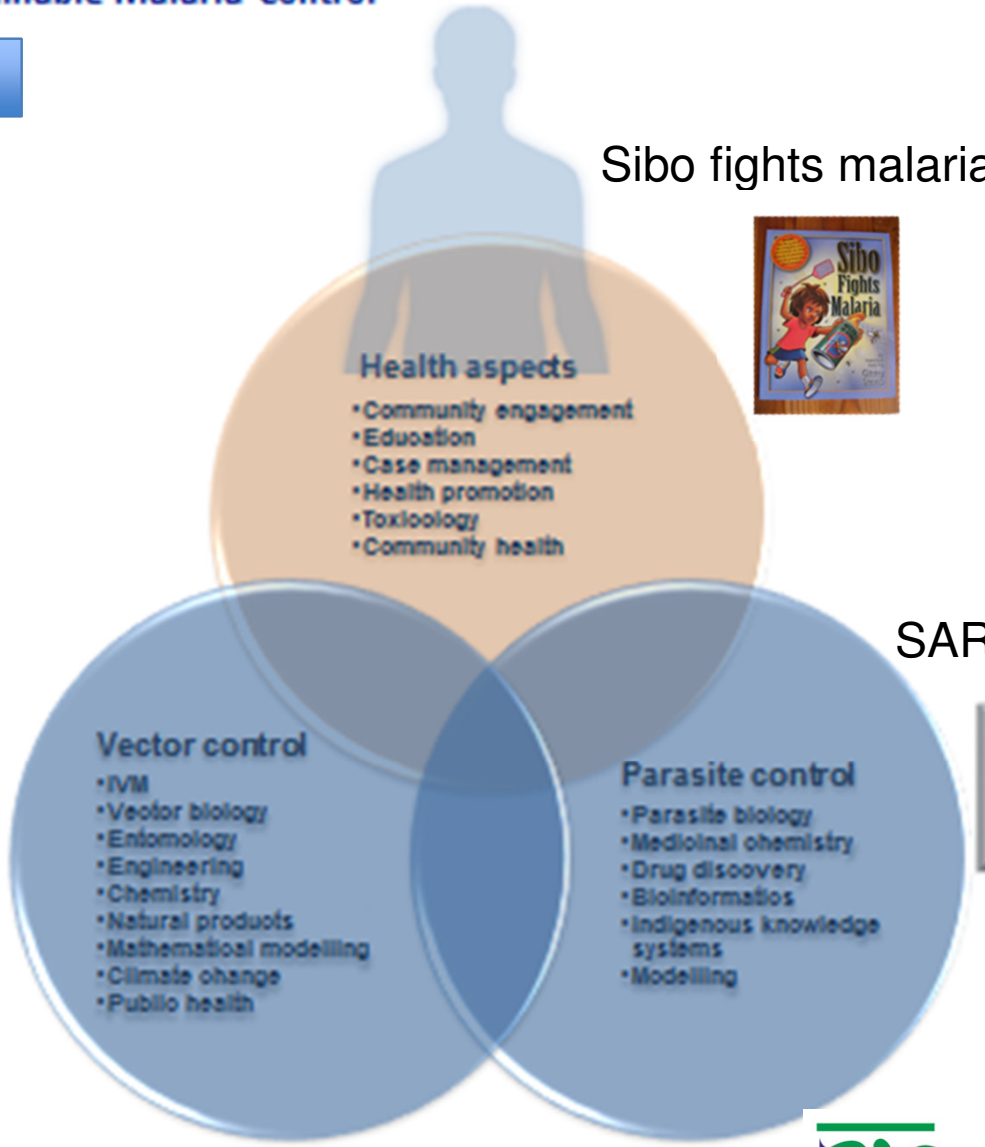
2014

Sibo fights malaria



IVM Initiative

SARChI Chair

MRC Collaborating Centre for Malaria Research

MRC SOUTH AFRICA

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MRC Projects

1) Cross-border (Nwanedi trans-boundary) Malaria Project

To determine the extent of imported malaria from outside South Africa, its contribution to local malaria transmission and its potential for preventing malaria elimination in the Nwanedi area and the epidemiology of malaria in indigenous villages.

2) Semiochemical Malaria Vector Reduction Project

To develop an enhanced odour-baited mosquito traps, for application in reducing outdoor malaria vector population.

3) Strategies to Guide Transmission Blocking of Malaria in an Elimination Agenda

Identification of sustained transmission blocking anti-malarials with *in vivo* validation.

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Projects

Vector Cluster

- Integrated Vector Management (IVM) for Sustainable Malaria Control in Eastern Africa (C Mutero)
- Durable Wall Linings for malaria vector control – new technologies (W Focke)
- Reducing the overall incidence of malaria in Africa by way of minimising outdoor biting by Anopheles arabiensis, Anopheles gambiae, and Anopheles funestus (L Braack)
- mSpray project – cellphone technology (M Bornman)
- Development and promotion of policies, technologies and methods for optimization of malaria vector control strategies (C Mutero)
- Controlled release of repellents from polymers and emulsions (W Focke)
- Larval control in Botswana and Zimbabwe – semi-arid regions (C de Jager)

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Vector Control Interventions

1) NETLON® indoor wall linings

UP developed technology

Field trials – Limpopo province - Community perceptions

Durability – efficacy – cost effectiveness – different applications

2) Biting behaviour of mosquitos

Different species

Different geographical areas

3) New innovations – Outdoor

Challenges of outdoor malaria transmission

Spatial traps and repellents

4) Spatial mapping of malaria

Climate, Climate Change, Early Warning Systems

CNES, France

Cross-border issues

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Projects

Parasite Cluster

- Strategies to guide transmission blocking of malaria in an elimination agenda (L-M Birkholtz)
- AfriMalar (African Malaria Research Network) - founding member
- Medicinal chemistry guided derivitisation of polyamine analogues with antimalarial properties (L-M Birkholtz)
- Natural product isolation: Bioassay guided isolation and characterization of antimalarial compounds from some plants (N October)
- Babesiosis Project: "'A Dog Model for Malaria and Multiple Sclerosis." (A Leisewitz)
- Molecular epidemiology of malaria in Vhembe district (L-M Birkholtz)
- Malaria parasites, gametocyte carriage, clonal diversity of infections and molecular
- drug resistance as determinants of malaria transmission (L-M Birkholtz)
- Design of antimalarial compounds by targeting small-gatekeeper kinases of the Plasmodium proteome (A Stander)

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Projects

Human Health

- IRS insecticides for malaria control and child neurodevelopment in South Africa (VHEMBE project) (MS Bornman)
- Epigenomics: Father's lasting influence (C de Jager)
- Pesticides, endocrine disruption and male reproductive health in Limpopo Province, South Africa (N Aneck-Hahn)
- Monitoring malaria transmission (L-M Birkholtz)
- The Malaria Awareness Programme Vhembe (MAP Vhembe) (MS Bornman)
- "Sibo Fights Malaria" project - teaching primary school children (N Claassen)
- Health promotion – KAP study (with NDoH)
- Development of an empirical malaria early warning system for South Africa using GIS and remote sensing (J Botai)

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Other Initiatives:

African Consortium for Malaria Vaccine Research
Accra, Ghana, 25 July 2014

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Towards elimination of malaria

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