

# **Malaria Bulletin**



**OFFICE OF MALARIA RESEARCH**

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## **WOMEN PAVING THE WAY TOWARDS FUTURE MALARIA RESEARCH - Winners of the poster and oral presentations at the recently held 4<sup>th</sup> Malaria Research Conference**

### **Ms Takalani Makhanthisa**

Miss Takalani Makhanthisa is a first year MSc (Entomology) student and a research assistant at the University of Pretoria Institute for Sustainable Malaria Control (UP ISMC). Takalani joined the University of Pretoria in 2013 where she enrolled for BSc Genetics, which she completed in 2015. She then proceeded to do her honours degree still with UP in 2016, where she joined the UP ISMC through her project in the Department of Biochemistry.

Takalani's honours research was titled "Evaluation of the prevalence of Cytochrome P540 2D6 mutations in the population of Vhembe District, Limpopo Province". Her honours work was published in a paper in Malaria Journal titled "Understanding



human genetic factors influencing primaquine safety and efficacy to guide primaquine roll-out in a pre-elimination setting in Southern Africa” which she co-authored with a PhD student. In 2017, she was appointed as an NRF intern at the UP ISMC. At the beginning of 2018, Takalani was awarded the Dr Sylvia Meek Scholarship for Entomology set up by the Malaria Consortium. She is the first South African student to receive this scholarship. Her MSc project is titled “Effectiveness of selected cattle-administered endectocides to reduce malaria-vector mosquitoes”. Takalani was born and raised in the Vhembe District, Limpopo Province, which is the area with the highest number of malaria cases in South Africa. For this reason, malaria research is very important to her.

## Dr Jandeli Niemand

Dr J Niemand is a senior lecturer at the Department of Biochemistry, Genetics and Microbiology at the University of Pretoria (UP). Her research focuses on the biology of the human malaria parasite with a particular interest in unique and essential parasite processes targetable in sustainable malaria control strategies. Dr Niemand obtained her BSc, BSc Hons, and MSc degrees in Biochemistry cum laude and was awarded her PhD Biochemistry in 2012, jointly undertaken at the UP and the Australian National University (ANU), enabled by a Fuchs Foundation Doctoral Scholarship as well as a UP postgraduate program mentor bursary award. During her PhD she was awarded amongst others the 2010 IUBMB Young Scientist Forum international travel award, the MAM 2012 Wellcome Trust Travel Scholarship, and was one of 16 international delegates chosen to attend the 2011 Biology of Parasitism course, Marine Biological Laboratories, USA, funded by the Wellcome Trust.

Following the completion of a Claude Leon post-doctoral fellowship performed at the UP, Dr Niemand left academic research to work as a Clinical Research Associate to broaden her knowledge on drug development and clinical trials in South Africa. She returned to academia as a lecturer in 2014 and is responsible for teaching both second and third year Biochemistry subjects, as well as coordinating and lecturing in the BSc (Hons) Biochemistry program. She is a NRF-Y

rated scientist currently supervising/co-supervising several PhD, MSc, and BSc (Hons) students within the University of Pretoria Institute for Sustainable Malaria control.

During her PhD study, she revealed the ability of the parasite to take up essential growth factors. Subsequent studies focused on the viability of targeting the malaria parasite's polyamine uptake mechanism for potential antimalarial drug delivery. For the first time, she showed that these promiscuous nutrient uptake mechanisms could be used to deliver drugs and kill the parasite inside the red blood cell of the human host in a Trojan horse-like strategy. These findings emphasized the essential dependence of the parasite on external nutrients and growth factors and paved the way for her current research interests in 1) nutrient uptake in both the asexual and sexual stage of malaria parasites, 2) the role of growth factors in quiescence-proliferation decision making during the malaria parasite's cell cycle and 3) a systems-level understanding of the malaria parasites' phenome.

## NEWS ARTICLES

- “A new study published in the Lancet journal *EClinicalMedicine* indicates that more mosquito nets are likely to be needed between mass campaigns to keep malaria cases in check.” Access the article: <https://www.news-medical.net/news/20180828/Loss-of-treated-bed-nets-between-campaigns-may-have-greater-impact-on-malaria-transmission.aspx>
- A study finds that “new drug-resistant strains of the parasite that causes malaria tend to evolve in regions with a lower risk of malaria.” Read the article by accessing the link: <https://www.sciencedaily.com/releases/2018/08/180821145217.htm>

- A new class of mosquito repellents was reported at the 256<sup>th</sup> National Meeting & Exposition of the American Chemical Society (ACS). For more information:  
<https://www.sciencedaily.com/releases/2018/08/180820085222.htm>
- A new method to diagnose cancer with a particular malaria protein has been discovered by researchers from the University of Copenhagen. Read the article.  
<https://www.sciencedaily.com/releases/2018/08/180816105535.htm>
- “For vector-borne diseases, a new 'epidemiologic triad' is needed, researchers say.” Access the article:  
<https://www.sciencedaily.com/releases/2018/08/180802102409.htm>

## **4<sup>th</sup> Southern Africa Malaria Research Conference - Flash mob presentation by UP – a few photographs**













The YouTube videos of the flash mob can be viewed by accessing the links below.

1. Long version: <https://youtu.be/Ac1jN-t7owY>
2. Short version: <https://youtu.be/UPCHxEq0pPo>

## RECENTLY PUBLISHED ARTICLES

- Baloyi et al. Evaluating a 24-h mobile reporting system for malaria notifications in comparison with a paper-based system in South Africa, 2015. *Malar Journal* (2018) 17:308.  
<https://doi.org/10.1186/s12936-018-2451-x>
- Kaindoa et al. Housing gaps, mosquitoes and public viewpoints: a mixed methods assessment of relationships between house characteristics, malaria vector biting risk and community perspectives in rural Tanzania. *Malar J* (2018) 17:298  
<https://doi.org/10.1186/s12936-018-2450-y>

## FUNDING / OPPORTUNITIES

- NRF/STINT Science and Technology Research Collaboration. The joint call intends to support joint research projects, human capital development, and student and staff exchanges between South African and Swedish universities and research institutions. The call closes on 12 September 2018. For further information visit: <http://www.nrf.ac.za/division/funding/nrfstint-science-and-technology-research-collaboration>
- The Knowledge, Interchange and Collaboration (KIC) announces the second 2018 mobility call. Funding is prioritised for those researchers who have not already been allocated travel support through any other current NRF grant awards. Call closes: 20 September 2018. For more information visit: <http://www.nrf.ac.za/division/funding/knowledge-interchange-collaboration-kic-2018---2nd-call>
- The EDCTP calls for proposals:
  - Diagnostic tools for poverty-related diseases. Deadline 11 October 2018. <http://www.edctp.org/call/diagnostic-tools-for-poverty-related-diseases/>
  - Advances in product development for effective prevention, treatment and management of co-infections and co-morbidities. Deadline 11 October 2018. <http://www.edctp.org/call/advances-in-product-development-for-effective-prevention-treatment-and-management-of-co-infections-and-co-morbidities/>
  - Strategic action for overcoming drug resistance in malaria. Deadline 30 October 2018. <http://www.edctp.org/call/strategic-action-for-overcoming-drug-resistance-in-malaria/>
  - Strategic action for the comparison, selection and development of malaria vaccine candidates. Deadline 1 November 2018. <http://www.edctp.org/call/strategic-action-for-the-comparison-selection-and-development-of-malaria-vaccine-candidates/>

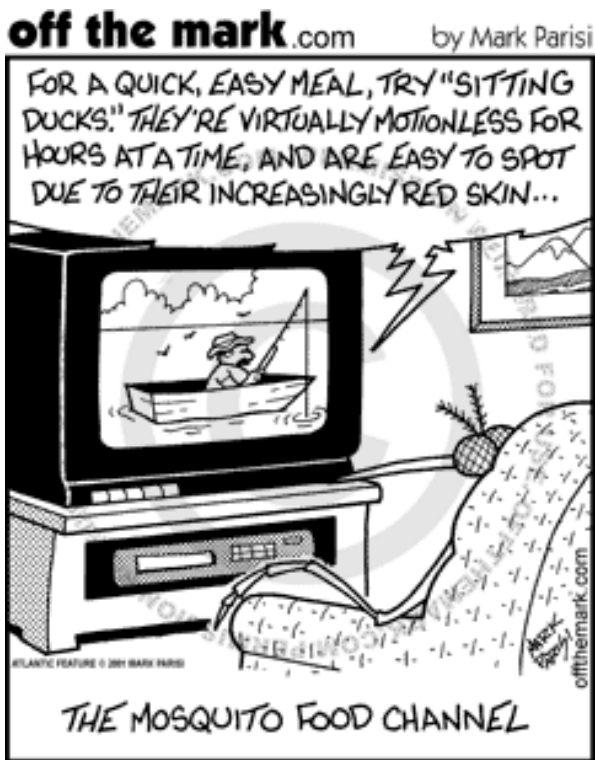
## LOCAL AND OVERSEAS CONFERENCES

Below please find links to malaria related conferences advertised for 2018 and 2019. For more information, please visit the relevant websites:

1. Medicine Quality and Public Health Conference  
September 23-28, 2018  
Oxford, United Kingdom  
<https://www.tropicalmedicine.ox.ac.uk/medicinequality2018/>
2. 5<sup>th</sup> Pan-African Mosquito Control Association (PAMCA) Conference  
September 24-26, 2018  
Victoria Falls, Zimbabwe  
<http://events.pamca.org/>
3. Framing the Response to Emerging Virus Infections (S2)  
October 14-18, 2018  
Lee Shau Kee Lecture Centre, Centennial Campus, The University of Hong Kong,  
Pok Fu Lam, Hong Kong  
<http://www.keystonesymposia.org/index.cfm?e=web.Meeting.Program&meetingid=1557>
4. 21<sup>st</sup> Century Drug Discovery & Development for Global Health (S3)  
Hotel Palace, Berlin  
October 17-20, 2018  
Berlin, Germany  
<http://www.keystonesymposia.org/index.cfm?e=web.Meeting.Program&meetingid=1650>
5. 21<sup>st</sup> European Society for Vector Ecology (E-SOVE) Conference  
The NH Palermo Hotel  
October 22-26, 2018  
Palermo, Italy  
<http://www.sove.org/European%20SOVE%20folder/greecemail.html>

6. 67<sup>th</sup> Annual ASTMH Conference  
Sheraton New Orleans and New Orleans Marriott  
October 28 – November 1, 2018  
New Orleans, Louisiana USA  
<http://www.astmh.org/annual-meeting>
7. International Conference on Infectious Diseases  
Sheraton Berlin Grand Hotel Esplanade  
November 5-7, 2018  
Berlin, Germany  
<https://unitedscientificgroup.com/conferences/infectious-diseases/>
8. 14<sup>th</sup> International Conference on Vectors and Vector Borne Diseases  
Swosti Premium Hotel, Bhubaneswar  
January 9-11, 2019  
Bhubaneswar, India  
<http://www.navbd.org/icov-14/index.html>
9. Translating Multifaceted Molecular Mechanisms into Pharmacological Interventions for Advancing Global Health  
Gordon Research Conference  
Renaissance Tuscany Il Ciocco  
April 28 – May 3, 2019  
Lucca, Italy  
<https://www.grc.org/multi-drug-efflux-systems-conference/2019/>

## PRESENTATION ICEBREAKER!



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