Editorial

Prof. Dr. Peter Maienfisch

Malaria Vector Control

Malaria is a life-threatening disease caused by parasites that are transmitted to people through the bites of infected female *Anopheles* mosquitoes. According to WHO 95 countries and approximately 3.2 billion people, nearly half of the world's population, were at risk of malaria in 2015, and worldwide 214 million new cases of malaria and 438,000 malaria deaths have been estimated (see WHO reports, *http://www.who.int/mediacentre/factsheets/fs094/en/, www.who.int/malaria/media/world-malaria-report-2015/en/)*. Most of these deaths occurred in the African Region (90%), followed by the South-East Asia Region (7%) and the Eastern Mediterranean Region (2%).

In advance of the 2016 World Malaria Day United Nations Secretary-General Ban Ki-Moon said "Malaria control has proven to be one of the smartest investments in health we can make. When we target our funds in proven malaria control interventions, we create healthier communities and more robust economies".

Malaria control requires a mix of preventive and treatment strategies tailored to the specific conditions of each malaria endemic setting, and includes the following tools:

- Prevention: Protection for people at risk of malaria by insecticide-treated mosquito nets (ITNs) or by indoor residual spraying (IRS) with insecticides
- Elimination of malaria parasites by pesticides in a defined geographical area
- Antimalaria drugs
- Vaccines against malaria

Over the last years substantial progress has already been made in reducing the number of malaria cases globally. Further investments in research and development programs are required to provide access to new and better tools, intervention packages and health and social service provisions in order to save more lives. In malaria vector control, the achieved gains are under threat from the emergence of insecticide resistance. The spread of resistance in the vector populations, principally to pyrethroids, is driving the need for the development of new tools for malaria vector control to secure the best possible protection of people at risk from vector-borne disease.

This CHIMIA Special Issue on 'Malaria Vector Control' is designed to give the reader a state-of-the-art overview on current research on the discovery of new insecticides for malaria vector control and on complementary strategies for reducing vector populations.

This Special Issue could only be realized due to the high engagement and commitment of the authors and the CHIMIA technical editors. I would like to express my great thanks to all of them. Furthermore, I would like to thank the Innovative Vector Control Consortium (IVCC), specially Prof. Dr. Trevor Perrior and Dr. Sarah Rees, for their support and many fruitful discussions which were instrumental in developing this issue. The cover picture has kindly been provided by Jed Stone from IVCC.

I wish the readers an enjoyable and informative reading of this Special Issue.

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It is with great pleasure that the Editorial Board of CHIMIA warmly thanks Prof Dr. Peter Maienfisch for his efforts in the planning and successful realization of this interesting and topical issue on 'Malaria Vector Control'.